April 1949

WOOD PRODUCTS

STURDY

Smooth Running

The exceptionally sturdy construction of the Porter No. 612—20,000 RPM router and its precision building gives you facilities with which to make cleaner cuts, do it faster, and with a resistance to maintenance that features all Porter equipment.

The bearing lubricating system is automatic, recirculating, positive, clean, and foolproof.

Bulletin sent on request.

C. O. PORTER MACHINERY CO.

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GRAND RAPIDS 4, MICHIGAN

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Manufacturers

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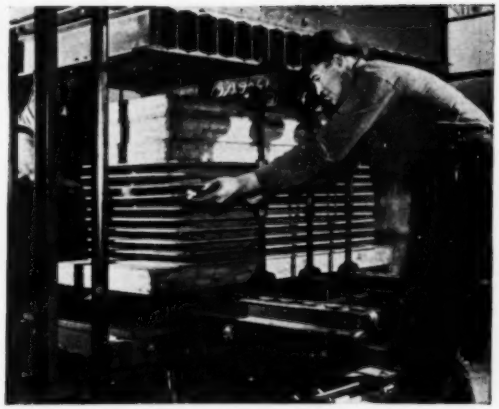
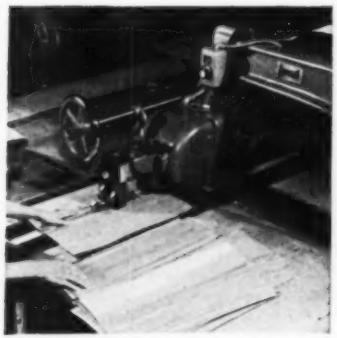
HOT PRESS—Perkins urea resin glues, used with "custom-developed" catalysts, point the way to improved production in most operations. For greater durability, Perkins resorcinol and phenolics are available.



COLD PRESS—Here, Perkins L-100 with Catalyst C-2 is doing a superior job. This is only one of the many resin glue combinations offered by Perkins for use in all types of Cold Press operations!

there's a *PERKINS RESIN GLUE*

FOR YOUR WOOD GLUING OPERATION!



TAPELESS SPLICING—The several veneer splicing glues manufactured by Perkins include liquid and powder types. Simplicity of use and a boil-proof, durable, non-brittle joint make Perkins Splicer glues extremely popular.

HIGH FREQUENCY—Electronic gluing requires a superior resin adhesive such as Perkins L-100 Urea with High Frequency Catalysts for consistently excellent results. For the ultimate in glue joint dependability, a boil-proof and arc-resistant resorcinol-phenolic is supplied.

MISCELLANEOUS operations using such equipment as automatic coremaking machines, strip heaters, etc. work better with Perkins Resin Glues that are specially adapted for such use.

RESIN GLUES by Perkins include both liquid and powder type Urea, as well as Resorcinol, Melamine, Phenolic, and several varieties of Splicer glues. If your operation involves the gluing of wood there is a Perkins Resin Glue to do the job better! As the first step towards getting information and samples of top recommendation glues write today for the *Perkins Glue Inquiry Data Sheet*. No obligation, of course!

PERKINS GLUE COMPANY

ESTABLISHED 1899

LANSDALE, PA. **KITCHENER, ONT.**

1899 ***PERKINS GOLDEN ANNIVERSARY*** **1949**

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...a good plywood to use

Associated Plywood Mills is a pioneer manufacturer in a relatively young industry. Our experience extends over 28 years—long enough to acquire know-how and to accept the responsibility for quality production, fair prices, quick delivery.

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WOOD PRODUCTS

ABC

431 S. Dearborn St., Chicago 5, Illinois

Vol. 54 April, 1949 No. 4

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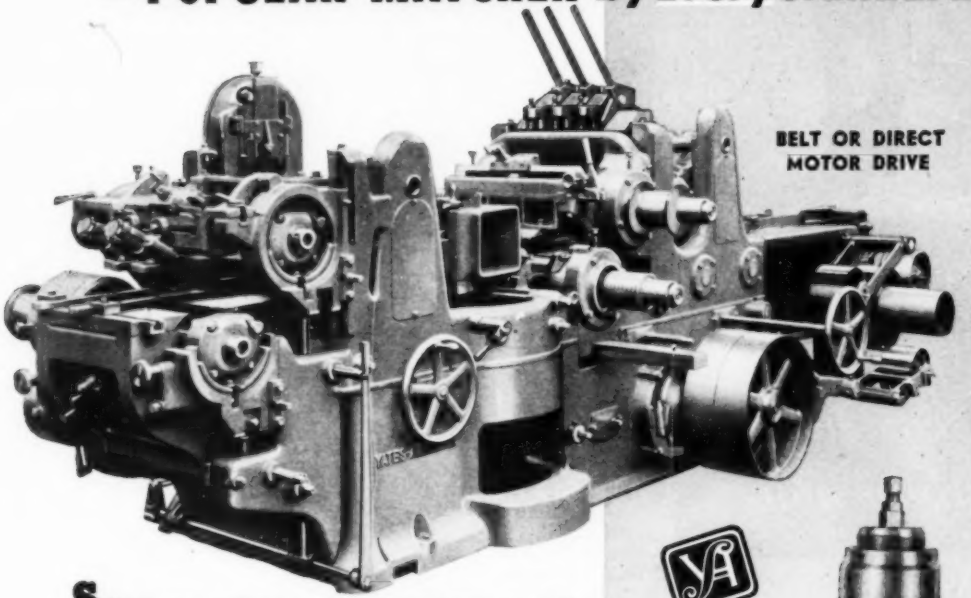
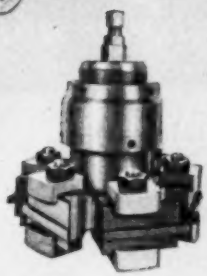
THE Yates A-20 —POPULAR MATCHER by Every Standard



BELT OR DIRECT MOTOR DRIVE



The A-20 is equipped with Yates-American thin knives and cutterheads.

STUDY the features of the Yates-American A-20 Planer and Matcher. Note the simplicity in design which makes adjustment easy and quick set-ups possible. See the rugged construction and excellent weight distribution, which give it stability for long, hard, *continuous* service.

Watch one of these fast-cutting machines operate. Observe its 75 to 200 ft. per min. feed rates. Note particularly the uniformly higher quality of lumber it produces . . . and you will understand why dealers prefer stock made on this superior matcher.

Investigate the A-20's overall economy—the reasonable first cost—low expenditures for power and lubrication (every shaft runs on ball or roller bearings)—savings in maintenance because of sturdy construction—fewer rejects and less waste.

Comparison shows you why the A-20 is the most popular matcher on the market—by *every* standard.

Prompt shipment can be made on all Matchers

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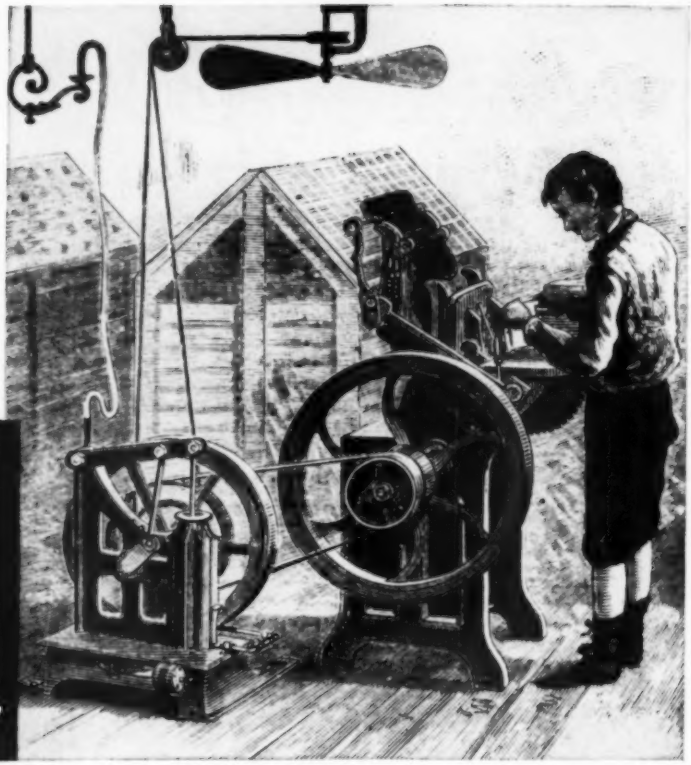

...When half a man was better than none...

More power to the wheels of progress! Only ½ manpower—this little engine was made to propel the pistons and spin the shafts of small industry. "Revolutionary," they said, for driving sewing machines and printing presses and dentists' lathes and such.

That was in 1883 when Blake & Johnson had already been serving the needs of industry—small and great—for 34 years. From then to date, we have supplied more than 35,000 different types of fastening devices. Our most recent development was the Twin-Fast wood screw introduced 6 years ago. Today this twin thread screw is contributing new holding power to assemblies in your industry—in practically every industry.

But Twin-Fast is only a symbol of progressive thinking at century-old Blake & Johnson. It signals the beginning of Blake & Johnson's next 100 years of achievement and service.

Write for catalog of complete line of Blake & Johnson fastenings

Machine Screws and Nuts, Wood Screws, Stove Bolts, Tapping Screws

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THE BLAKE & JOHNSON COMPANY — **WATERVILLE 48, CONN.**

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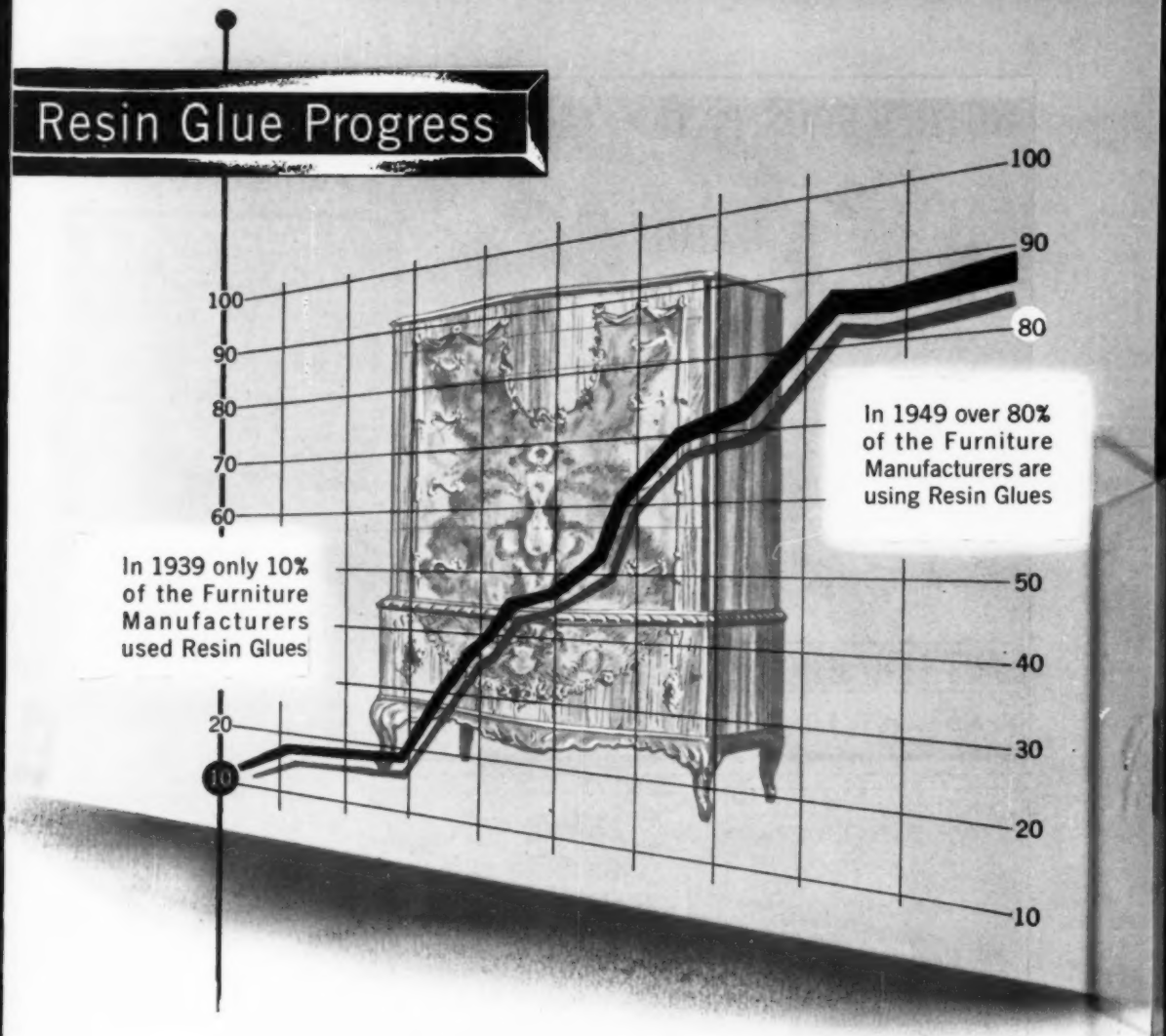
A *Century* OF MANUFACTURING OF FASTENING DEVICES FOR INDUSTRY



.and Plaskon is the largest supplier of Urea Resin Glues in the world!

SUPERIORITY in every point of performance is the reason for such fast-growing, widespread preference for resin glues.

PERMANENCE, added strength, and a high degree of water resistance are Plaskon features that have helped make Plaskon Urea Resin Glues the most widely-used in the woodworking field. In addition, Plaskon Resin Glues offer these advantages:

Complete Range of Hot and Cold Press Glues
Uniform Quality . . . Powdered Form
Ease of Mixing . . . Excellent Stability in Storage

Capable Technical Service . . . Immediate Delivery!

SERVICE. There is a Plaskon Resin Glue Service Engineer in your locality, to help adapt Plaskon* Resin Glue features to your problems. *Reg. U.S. Pat. Off.

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★ RESIN GLUE ★

HUTHER BROS. PATENT GROOVER

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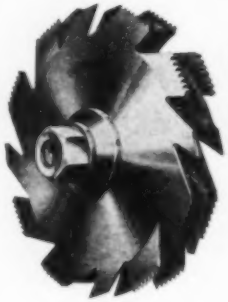
DADO HEAD



Here is a tool that will make a perfect groove, either with or across the grain, and will leave a perfectly smooth edge. Send for detailed information.

HUTHER BROS. SAW MFG. CO.

ROCHESTER, NEW YORK, U. S. A.

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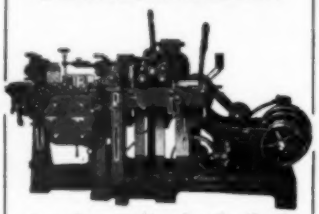
MEMPHIS 10, TENN.

HERMANCE NO. 60 HIGHSPEED BALL BEARING MOULDER



A modern machine for the Rapid and Accurate production of Small Mouldings or for four side planing. Ideal for detail work. Quick to set up. High spindle speed, 5400 RPM, means fine one-knife finish at fast feeds. Handles stock from the smallest to 6" wide and 3" thick; bed drops 16" for running wide stock on edge. For fast feeds it can be furnished with four knife heads, knife jointers, electric grinder and automatic hopper feed. The low initial cost and many advantages of this machine will appeal to you.

Write for Detailed Bulletin

HERMANCE
MACHINE COMPANY
Williamsport, Pa.

Wood
You believe it?

A helicopter was used by the U. S. Forest Service in getting construction timbers to the top of 2,500-ft. Pequawket Mountain near Kearsarge, N. H. The timbers will be used to rebuild a fire lookout station.

An average of 250 pounds was carried on each trip. Government officials figured it cheaper to fly the material than to have men "pack" it.

?

The forest industry is the second largest primary industry in Canada.

?

Tennessee cedar supplied the world with its pencil wood for 100 years.

?

Leesburg, Ind.—The famous Burkey Woods has been sold to a veneer manufacturing firm for $19,000. The tract was noted for the largest burr oak tree in the world, 124 feet tall and believed to be 500 years old. The tree was felled by a tornado several years ago.

?

Arkansas is credited with origination of "pine tree banking," a forestry practice where a "depositor" agrees to sell all timber cut from his land and the mill agrees to log off only the amount of timber that is being replaced by new growth. Small timber-owners find this "sustained yield" method of cutting timber insures them a perpetual forest.

?

In general, a nail with a long sharp point will have a higher holding power than one with the common point.

?

Observation of trees and poles bent or broken by windstorms or in felling or handling as well as in tests of round timber shows that first failure often occurs between, rather than at knots.

?

In general, heavy woods are more difficult to glue than lightweight woods, hardwoods more difficult than softwoods, and heartwood more difficult than sapwood.

?

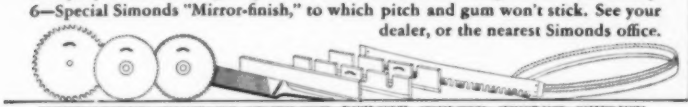
West Coast hemlock, a uniform fine-textured wood, is nonresinous and usually straight grained.

?

A lumber grade is established in order that any piece in the grade will support safely and indefinitely the loads for which the grade was established.

a SIMONDS "Red Center" gives you more for your Saw-Dollar

How do Simonds Saws maintain such a high level of consistent cut-ability? *These 6 reasons:* 1—Special Steel from Simonds' own mills. 2—Special Simonds-designed furnaces hold saws *flat*, and temper them under pressure. 3—Saws are hammered to even tension, by industry's top anvil-men. 4—Special Simonds-designed grinders assure proper clearance, right up to rim. 5—Automatic saw-filing for exact uniformity. 6—Special Simonds "Mirror-finish," to which pitch and gum won't stick. See your dealer, or the nearest Simonds office.



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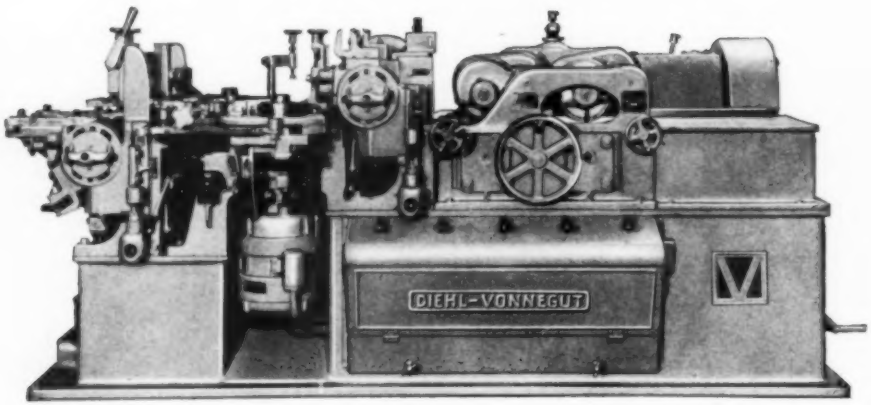
Now it's the

DIEHL-VONNEGUT

Moulder



On February 16, 1949, The G. M. Diehl Machine Works, Inc., purchased all of the assets and manufacturing rights of the Vonnegut Moulder from the Vonnegut Moulder Corporation. All new moulders manufactured by Diehl are sold under the trade name of "Diehl-Vonnegut."

The enviable reputation of the Vonnegut Moulder for efficient, dependable performance will be maintained. The "Diehl-Vonnegut" Moulder is now a member of the Diehl line of dependable woodworking machinery, and its construction and performance will be genuine Diehl quality . . . your assurance of high quality workmanship and trouble-free service.

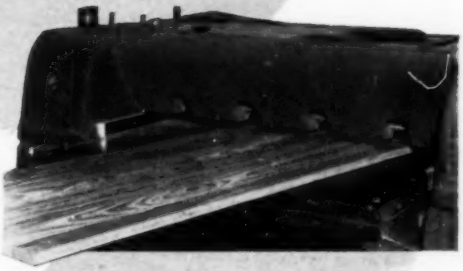
See your local machinery dealer or write direct for details on the "Diehl-Vonnegut" Moulder.

Present owners of Vonnegut Moulders are requested to contact the home office in Wabash for repair parts or service on their moulders now in use.

The G. M. DIEHL MACHINE WORKS, INC.

FOUNDRY—MUNCIE, INDIANA . . . OFFICE AND FACTORY, WABASH, INDIANA, U.S.A.

STRANGERS to the GRINDING ROOM



ATKINS "Silver Steel" PLANER KNIVES

A planer knife "earns its keep" only when it's on your machines. If you can keep it there longer—with fewer interruptions for grinding—you can *safely* reduce your investment in knives—keep output flowing more evenly at consistently higher levels. That's the experience of plants that have standardized on Atkins "Silver Steel" Planer Knives.

Atkins Planer Knives are made of "Silver Steel", a special alloy developed for its super-toughness. You'll find it only in an Atkins. They are scientifically heat treated and tempered, then ground to razor keenness. Because an Atkins is a better knife to begin with, it cuts faster from the start and keeps on doing it long after most knives have visited the grinding room three, four, five or more times! For you, the pay-off for insisting on Atkins quality is more output, better output, less down time and lower knife investment.

TELL YOUR INDUSTRIAL DISTRIBUTOR YOU WANT ATKINS "SILVER STEEL" PLANER KNIVES FROM NOW ON

ATKINS *Knives Are Better*

E. C. ATKINS AND COMPANY
Home Office and Factory:
402 S. Illinois Street, Indianapolis 9, Indiana
Branch Factory: Portland, Oregon
Branch Offices: Atlanta • Chicago • New Orleans • New York
San Francisco • Los Angeles

AAA TRADE MARK ATKINS "ATKINS ALWAYS AHEAD"

MAKERS OF BETTER SAWS FOR EVERY CUTTING JOB

WOODEN you like to know
Quick facts on ASH
According to an old English superstition, butter which fails to "come" promptly in the churn--will respond when stirred with a twig of ash.
Ash is more flexible than any other hardwood found in America.... for centuries man has chosen it for manufacture of tool handles, furniture, machine parts, wagons and other uses where a tough elastic wood is required.
Because of its extreme resiliency and "life", baseball bats and many other types of sporting goods are manufactered from ash.
Atlantic is your headquarters for hardwoods of all kinds. For quotations or information write, wire or phone.
The ATLANTIC LUMBER COMPANY
Headquarters for Hardwoods
88 Broad Street Boston, Mass.
1035 Seneca Street Buffalo, N. Y.

Question & Comment

Equipment for Plywood Plant

449-1

Editor, Wood Products:

We are interested in the installation of a Plywood plant with capacity for 10,000 b.f./day, 3/8" thick. The woods used would be Mahogany, Cedar and Walnut.

Having short economical possibilities due to lack of dollars, we should like to know if second hand equipment is available. Of course, if the capacity we suggest is too small we would like to know the minimum capacity equipment we could get.

We would appreciate very much your sending prices and specifications for each item available.

Lima, Peru.

449-2

Wooden Menu Boards

Editor, Wood Products:

Want to know of firms who might be interested in manufacturing a wooden menu board for wall display advertising showing menu food cards. My invention is patented for sale on a royalty basis.

C. V. B.

449-3

Wants Northern White Ash Squares

Editor, Wood Products:

We are in the market for Northern White Ash Squares, rough sawn, 1½" sq. x 4' - 4'6" and 5' long, and would appreciate your giving us the names of saw mills from which we can obtain the squares mentioned.

L. M. d. M.

449-4

Pearwood Wanted

Editor, Wood Products:

We are in the market for 1", 2" and 3" Pearwood, which we use for models. Will you give us the names of several lumber people who stock Pearwood?

S. O. C.

Saw Dust and Wood Flour

449-5

Editor, Wood Products:

The writer is interested in procuring the following information regarding the sawdust and wood flour industry.

Type of equipment required to produce soft wood and hard wood sawdust; also wood flour. Where such equipment is procurable. How used. Usual cost of such equipment.

Is there printed material available describing methods of cut, processing, etc.? Where available?

W. M. P. Co.

Most of the ideas we get are not as unique as the experience of having them.

"Let's Ask WISCONSIN

...ejve helped us before on
...ur cutterhead problems!"

● Woodworkers have learned that they can "Ask WISCONSIN" for advice and suggestions on any tough problem involving the use of Cutterhead equipment. They know that such advice doesn't necessarily result in ordering a new set of heads. Very often a change in feed, or speed . . . a different cutting angle . . . a new set of knives or bits will lick the problem. If new heads are needed, they know that WISCONSIN can build or adapt them to the job.

That is why you, too, can make WISCONSIN KNIFE your headquarters for Competent Cutterhead Counsel.

CUTTER HEADS
BADGER
KNIVES

Engineers to the Woodworking Industry
WISCONSIN KNIFE WORKS
BELOIT, WISCONSIN

Keep Costs Down!

with WHITNEY SINGLE PLANERS

Features:

- Wedge Raising Bed
- Variable Feed
- Anti-friction Bearings
- Whitney Knife Grinder
- Convenient Operation
- Finger-tip controls

LABOR costs in the woodworking industry make up 60% of the total manufacturing cost according to a recent survey. Whitney Single Planers can keep these costs down by producing smooth, accurate surfaces which minimize sanding operations and eliminate extra handling costs.

Whitney Planers are quality built and of rugged design to withstand hard usage year after year and to maintain difficult production schedules. They are a sound investment today in the face of high labor costs. Write for Whitney Single Planer Bulletin and complete information.

WOOD PRODUCTS

NATIONAL MAGAZINE OF THE WOOD PRODUCTS INDUSTRY

431 S. DEARBORN STREET, CHICAGO 5, ILLINOIS

Vol. 54—No. 4 APRIL, 1949 25c a Copy, $2 a Year

The Editor's Viewpoint

Industry and the Cost of Living

Industries, like families, have a cost of living problem to face these days. And, in both cases, it has its roots in current prices. The oil industry is a particularly good case in point because it has had large dollar earnings which have been the subject of criticism in some uninformed quarters. It may seem that if a company makes millions of dollars over and above the cost of business in the course of a year, it has nothing about which to be concerned. However, that is not the case.

A company cannot stand still, "freeze" its plant and facilities, and expect to remain in business for long. It has to move ahead to keep up with the competition, to satisfy its customers, and to replace equipment which gradually wears out.

A new refinery, however, costs more than twice as much to build today as it did ten years ago. New pipe lines cost up to three times as much.

The cost of living is just as much a problem to industry as it is to farmers, workers, retired people, government employes, or anyone else.

Business Morale

Business is in a strong position but the morale of businessmen is lower than it needs to be, says the Chicago Journal of Commerce. The difference seems to be between the optimist who sees the glass nearly full and the pessimist who sees it partly empty. Sure, the picnic is over, the boom is ended and business has returned to the competitive selling game. Are businessmen afraid to get out and work for business? Are they so blinded by recent sellers' markets that they cannot see the difference between restored competition and a depression?

What are the facts? Yes, department store sales are down a bit but the difference is in dollar sales and not in physical volume. Yes, unemployment has risen, but it still is below the mark of this time last year. Sure, there are over 3 million unemployed but there are 57 million working at their jobs. The total amount of private debt is lower than ever before, amounting to only 85% of national annual income, compared with 185% in 1929. The lumber industry has a particularly rosy outlook because of the huge unfilled demand for homes and all of the furnishings and equipment to go with them. Yes, supply has caught up with demand in many items, but one glaring shortage remains, the lack of confidence.

Businessmen could talk themselves into a depression unless they tackle this problem of overcoming doubts and fears. The hold-off attitude of many business managers is contributing to the temporary dullness and might develop into a slump. The basic ingredients of good business are still with us. Steel is the recognized barometer and steel production is running high by all comparisons. Auto production is at a record high level. Construction during January and February was 11% over the same period last year. In those areas where declines have occurred, the drop has not been drastic. 1949 promises to be the second best year in all peacetime history. Why wait? Why not get busy and go ahead? It is time to wake up to the realities and "play ball." Why listen to the rumor factories and idle gossip when there is so much that needs to be done?—*John McClure in N.H.L.A. News.*

"My wife calls this a balanced diet—sheet of bread —sheet of lettuce—sheet of balogna—sheet of bread. Why that isn't even balanced construction."

Popular Pattern #910 was used to build this two-bedroom house. Like other Easi-Bild patterns this one gives step-by-step directions and a complete list of materials, with exact number of bricks and square feet of lumber. House has large living room, two bedrooms (each with two closets), hallway with large linen closet, bathroom, kitchen, utility room, breezeway and one-car garage. Garage has space for a garden tool room, screen and storm window closet and for a six-room work bench.

Wood Industry Gets Boost from Interested Bystanders

By
E. M. Kelley

There are a number of forces working toward the end of training young people in techniques of woodwork and related crafts. Taken collectively, these various efforts have considerable significance for members of the wood industry and deserve their attention.

Take, for example, the merchandising program of Crescent X-Acto Products Co., manufacturers of hobby tools. This firm sells replaceable blade knives and handicraft tools in a variety of styles adapted to many uses. In addition to supplying attractive display material and dealer aids, the company uses every conceivable method of interesting consumers in woodworking as a hobby.

The X-Acto people go to considerable pains to make their display aids really effective. Here's an anecdote that shows the extent of their success. Three years ago they offered dealers, for display purposes, a tool cabinet which, when opened, showed a complete line of X-Acto knives, blades and tools. It was exhibited at a trade show where it won first prize in a point-of-sale contest. Dealers suggested that it be offered, in addition, as a consumer "package" or tool kit. Consequently, no selling copy was silk-screened on the cabinet, as it would otherwise have been. The idea was highly successful. Customers, seeing the cabinet in store windows and on counters, bought the whole kit. It is now considered chiefly a consumer item, and to date more than 3500 of these fitted units have been sold at $50 apiece.

X-Acto's national advertising and display posters usually feature "tools in action." A few years ago the company published a series of advertisements showing well-known film stars engaged in woodcutting and allied hobbies. Blowups of these made striking point-of-sale displays. The company is alert in watching opportunities for tie-ins with other firms or organizations, when such tie-ins are mutually beneficial. For example, when the film, "Pitfall," was being publicized, a scene in which Dick Powell was shown working from blueprints on a model was used as the basis for an X-Acto window streamer. It happened that Powell had used an X-Acto knife in the film, so that the tie-up was a "natural."

The annual Fisher Body Craftsmen's Guild contests are a powerful incentive to thousands of young men to try their skill at woodworking. Begun eighteen years ago, the contests were suspended during the war, but were resumed three years ago. Nearly 2,000,000 boys have participated in these, and General Motors has spent more than $270,000 for university training of the 72 winners, and more than $300,000 for cash awards and educational trips for winners. Last year GM awarded

winners two $4,000 scholarships, two $3,000 ones, two $2,000 ones and two $1,000 ones. There are two age groups for contestants, 12-15 and 16-19.

Over 500 Entries From Eastern States

Last fall 500-odd entries from Eastern States were exhibited at the R. H. Macy & Co. department store in New York. About ¾ of the entries, cars designed by the contestants, were of wood, the others being molded. According to Ole V. Olesen, Detroit vocational school teacher, who has been a judge since the competitions were initiated in 1930, wood has several advantages. It takes a satisfactory finish and stands up well. It does, however, take much patience and labor to complete a handsome wooden model, according to Mr. Olesen. Balsa is a favorite wood among contestants, because it is easy to handle. A good grade of white pine is also chosen by many boys. Surprisingly enough, a fairly large number manage to find mahogany or other hardwoods for their entries, despite their high price. Some boys make pretty good models from packing boxes. H. B. Stubbs, Detroit, furnishes balsa blocks specifically for Fisher Body entries. Sprayed lacquer is a popular finish, and investigation has shown that auto shops have helped the boys with this requirement.

Macy aggressively promoted the exhibition it staged of the Fisher Body contest entries. Throughout the show there were special events, such as talks by authorities on car design; personal appearances by sports figures and handicraft editors, etc. Movies were also shown continuously. These two alternated: "ABCs of Handling Tools" (a Disney color film, and an excellent "capsule" course in the subject), and "Building a Model Car."

The Easi-Bild Pattern Co., of Pleasantville, N. Y., has not only greatly enlarged the circle of those who build things of wood, but has also helped lumber dealers and retailers of tools and related products, to increase their sales. The ten-year-old company is the brain child of Donald R. Brann, who conceived the idea that hobby-minded men might welcome patterns rather like those women use in dressmaking,

Display in window of Polk's famous hobby shop, on Fifth Avenue in New York City. X-Acto supplied materials, which include blow-up photo of boys at work; 3-dimensional poster showing a hobbyist at work, part of an advertising series; completed models; opened and closed kits of various kinds. X-Acto advocates displays featuring "tools in action."

instead of the more complex blueprints. He had been in the textile business and had sold women's dress patterns, and when he found it necessary to remodel an old house he had bought, he made his own full-sized patterns for each carpentry job. This enabled him to save money on material, since he knew in advance exactly how much lumber or glass, or the actual number of bricks, he would need for each project. Friends began to borrow his patterns and he soon decided to commercialize the idea. The line has grown to patterns for over 100 items, ranging from a six-foot workbench to a five-room house. A few patterns sell for 15c, while house patterns sell at from $2 to $5. Most are priced at 25c, for which may be had patterns for making kitchen shelf, workbench, table, bookcase, magazine rack, storage chest, undersink enclosure, shoeshine box, pipe rack, bed, tool chest and many other articles. The patterns are sold through several types of dealer outlets, including hobby shops, hardware and lumber dealers.

Declares Patterns Should Be Foolproof

One of Brann's cherished beliefs is that the patterns should be foolproof — which necessitates easy-to-understand instructions. Because of this policy, he rarely has to enter into correspondence with users wishing additional information. The company does, however, get many letters telling of completed jobs. Five letters were received during a period of a month, not long ago, from persons who had completed the building of houses from patterns.

Sales results are in direct ratio to promotional effort, according to Brann. A retail lumber dealer who sent out a mailing on items for which patterns are available developed 142 new customers, he reported. A test house, built under the sponsorship of the *Woman's Home Companion*, at a material cost of $950, was described and shown in an illustrated article in that magazine: more than 10,000 patterns, at $2 apiece, were ordered by readers. A Canadian lumber dealer advertised in a local paper that he would give a $2 cottage pattern to anyone buying $875 worth of materials. Eighteen took him up on the offer. A Michigan lumber company did so well with the home patterns—and resultant material sales—that it set up a system of delivering piecemeal only what a customer would need during the weekend while building a house. This plan had the advantage of eliminating thefts of materials during the week, as well as permitting the week-end buyer to pay for materials as he uses them.

A number of other companies have cooperated, or are cooperating, with Easi-Bild in tie-in programs. The Chemical Division of the Borden Co., for example, shows bookcases, boats, outdoor furniture, etc., in its Casco glue ads, and inserts coupons for

Wood Industry Gets Boost

(*Continued from preceding page*) ordering patterns to make those items. Naturally, the firm's glue is recommended for constructing the pieces. The Atlas Press Co. also advertises Easi-Bild patterns, together with the firm's own tools —on the assumption that a man is a prospect for power tools after he learns how much fun and profit there is in "building it himself."

While the amount of wood tools and other related materials bought by hobbyists and other amateurs is small in comparison to that bought for trade and industrial purposes, in the aggregate it represents an attractive "plus" which many representatives in the industry might welcome. With labor costs so high, more men (and many women) will go in for doing their own carpentry and building. It is also widely recognized today that a large percentage of the population wants to work with its hands, and must find the outlet for that desire through homecrafts and hobbies. The various forces instrumental in providing the incentive to take up these pursuits, especially among young people, are helping to form a reservoir of ability from which the various branches of the woodworking industry may later draw. Lastly, a vote of thanks should be awarded to all those who help stimulate an interest in, and an appreciation of, fine woodwork.

From Rags to Riches

IN THE FURNITURE BUSINESS

By

Ted Bentz

In 1923 a couple of young fellows by the names of VanderLey hauled a few pieces of old furniture into their little hole-in-the-wall repair shop at 166 Cherry street S.W., in Grand Rapids, Michigan.

In 1949 the VanderLey Brothers Inc., displayed in their showrooms in the Waters building in Grand Rapids furniture "fit-for-a-queen."

All of which tentatively indicates the amazing progress the young fellows, who started business from a mere "shoe-string," have made over the years. It also demonstrates to the new, up and coming woodworking manufacturer that success in this business is available, notwithstanding the outlook, through determination, perseverance and hard work.

No one knows that better than Anthony, Miner and Frank VanderLey. Today their firm, the VanderLey Brothers, Inc., is doing more than three-quarters of a mililon dollars worth of business annually. And the company has assets worth more than $250,000.00.

Within a few months after the VanderLeys got their start, brothers Andrew (who died recently) and Anthony got hold of furniture frames and fabrics and began to manufacture upholstered furniture on the second floor of a building at the Grandville avenue S.W., bend. They planned their product and produced, hired salesmen and by 1925 the firm had to be expanded necessitating a move into a new factory building at the Hall street address.

The two other brothers, Miner and Frank, joined the firm when they developed into young men and the business grew steadily.

In 1947 the plant was enlarged. It still is 40 feet in width and three stories high. but now the plant is 200 feet long. And although it is not yet in the same category of bigness as compared with other furniture plants in Grand Rapids, it is steadily growing.

VanderLey Brothers, Inc., to a large degree is an assembly plant. Pieces are made by other concerns—some of them doing most of their business on the VanderLey outlet alone—and conveyed to the plant where the finished product is produced.

The system devised by the brothers has made a compact business, as the financial record of the firm shows. Anthony points out that the company has borrowed very little money during its career. As the company earned a profit, that profit was used for expansion.

Today, however, the firm is building up a surplus and expansion is made as required.

Anthony gives much of the credit for the firm's success to John Samuelson, the company's head designer. Anthony is always looking about for something different in design. He frequently travels about the country, where he inspects and examines the interiors of musty houses in New York and in the old mansions of the south. When he discovers something attractive of the Victorian period he makes a sketch of it. On his return he turns it over to Samuelson, who usually comes up with something new by making a few changes here and there.

The VanderLey Brothers, Inc., thrive almost entirely on the Victorian style of furniture. Anthony believes that the film, "Gone With the Wind," is responsible for stimulating the demand for the VanderLey product since the sets used for the movie were Victorian.

The production line at the VanderLey plant turns out chairs, love seats, sofas, tables, chests and beds. For a long time the VanderLey company was the only concern that manufactured the "nice things" in the Victorian design. Some of the firm's products have found their way into many parts of the world. Victorian, Anthony believes, is like an institution, grand, of royal permanence. I› seems to give the final purchaser a feeling that he is getting something of established richness.

Since the death of Andrew the firm is without a president. Frank is vice-president of the firm. Miner is the treasurer, and Trina, a sister, is secretary. Anthony, who plays the role of general manager in many instances, says he is just a "factotum."

WOODS OF THE

Mahogany Family

. . . *Excepting Mahogany*

Our first bulletin in this series covered the subject *"What is Mahogany"*, but at that time we did not go into detail as to what constituted the "Mahogany Family" (Meliaceae). In the past two years certain interests have been attempting to introduce and sell non-mahogany woods as mahogany. One of the principal arguments put forth has been that the wood is "of the mahogany family". To a layman, unfamiliar with botanical classification, such a contention easily may be accepted as authority for usurping the common name *"Mahogany"*.

Nothing could be further from the truth. Most of us think of the word "family" in terms of people. John and Tom Jones may be full brothers and both equally entitled to the name Jones. Botanically speaking, however, the "family" is a very broad classification and is no justification whatever for the indiscriminate use of a common name. Within the family there may be dozens and even hundreds of *genera* and thousands of *species*; and it is the genus and species classification that establishes common names—NOT THE BOTANICAL FAMILY.

With this fact in mind let's examine the "Mahogany family" and see just what it includes and what confusion would result if inclusion in a botanical family were a test for the use of a common name like mahogany. For the sake of brevity we shall not discuss mahogany at this time but review other genera in the mahogany family. For convenience, we shall divide these woods into three groups:

I. Woods known in the trade in the U.S.A.

II. Woods known in the trade elsewhere.

III. Woods of local or no commercial value.

By

George N. Lamb

Group I

All of these woods are known to the American woodworking trade and each has been described more fully in our current series on tropical woods. This, therefore, is merely a listing:

Genus:

CARAPA—Crabwood, andiroba, cedro macho and caobilla (Recently attempts have been made to misrepresent this wood as "Costa Rican Mahogany")

CEDRELA—Spanish cedar, cigar-box cedar, cedro.

ENTANDROPHRAGMA—A number of African species of which the best known are sapele or sapeli, aboudikro, tiami, sipo.

GUAREA—Bosse (Africa), Guarea, alligator wood (Trop. Amer.)

LOVOA—Tigerwood, African walnut (Africa)

MELIA—Chinaberry — a common shade tree in the southern States, introduced from the Orient. Wood quite similar to honey locust and not commercial.

TURRAEANTHUS—Avodire (Africa)

Group II

In addition to the foregoing woods, known to the trade in the U.S.A., there is another group of woods belonging to genera in the Meliaceae family that are commercially used in the British timber trade or in other countries:

Genus:

AGLAIA—(9 species) Known as YERRA in India and as TUKANG-KALAU in the Philippines. The wood is bright red to dark reddish brown. It is close-grained, heavy and hard; rather difficult to work

AMOORA—(8 species) Called CHUM PRAK in Siam, THITNI in Burma, KATO in the Philippines and AMOORA in Australia. It is reddish brown; heavy, hard and strong.

CHICKRASSIA—(8 species) (Chickrassy)—The CHITTAGONG of India, the YIN MA of Burma and the YOM HIN of Siam. Generally a pale yellow, darkening to a golden brown. Heavy and hard; rather difficult to work.

DYSOXYLUM—(35 species)—In the Philippine Islands there are several species known as IGIU, MIAO, KAYATAU and as Red Bean and "Rosewood" in Australia and "White Cedar" in India. Wood is buff to reddish yellow, fairly hard and strong.

PLAEROXYLUM—Called Sneezewood in South Africa. It is creamy white, very close grained, heavy and could easily be taken for sugar maple. Very much appreciated in its native country. The dust tops all other woods in causing sneezing.

SANDORICUM—(5 species) In Siam called KATON; in the Philippines SANTOL and MALASANTOL; in Burma THITTO; and SENTOL and RED SENTOL in Malaya. The wood is faun to light reddish in color; fine textured; weight and hardness about that of mahogany. Seldom cut for timber as the fruit is edible.

SOYMIDA—(1 species) "Indian Redwood" from Central and South India. Also known locally as ROHAN and ROHINA. A large tree; sapwood whitish; heartwood very dark blackish brown; heavy, hard and close-grained. Difficult to plane but when well-seasoned, it is considered a fine cabinet wood and is durable.

TOONA—(1 species) Some botanists call this tree Cedrela

toona. In Siam, known as YOM HAWM; in India, RED CEDAR, TOON or MOULMEIN CEDAR; in the Philippines as KALANTAS. The wood is quite similar to Spanish cedar but darker in color. It is moderately coarse, soft, light, easy to work and keps its shape.

changeable among themselves nor with the name Mahogany without creating complete confusion. All of these woods are distinctly different from Mahogany, not only in appearance but in mechanical and woodworking characteristics.

Group III

These are other established genera of the Meliaceae family which, on account of small size, scarcity or poor quality of the wood, have no commercial possibilities. (This list is not complete):

Genus	*Common Name—Origin*	*Remarks*
APHANAMIXIS	Salakin (Philippines)	Small; wood russet; heavy, hard.
AZADIRACHTA	Neem (Philippines)	Reddish brown; medium weight.
CABRALEA	Cangerana (Brazil)	Dull red to maroon; medium heavy.
CHISOCHITON	Sylhet (India)	Soft, grayish white.
CIPADESSA	Nal bila (India)	Shrub; wood red, hard.
EKEBERGIA	Cape Ash (S. Africa)	White or light yellowish red.
ELUTHERIA	Curito (Trop. America)	Small, scarce, brown, heavy, good.
HEYNEA	Heynea (India)	Small, wood gray-yellowish.
LANSIUM	Langsat (Malaya)	Small, edible fruit.
OWENIA	Crow's Apple (Australia)	Small tree.
PSEUDOCEDRELA	Dry Zone Cedar (W. Africa)	Gets mixed with other W.A. woods.
REINWARDTIODENDRON	Malakamanga (Philippines)	Reddish yellow; not good.
SYNOUM	Scentless Rosewood (Australia)	Reddish; not good.
TRICHILIA	Catigua (Trop. America) Bosse (Africa)	Closely related to Guarea.
TURRAEA	Turraea (India & Africa)	A little-known shrub.
VAVEA	Nangka (Philippines)	Small; heartwood cream colored.
WALSURA	Walsura (India)	Dull, plum color; heavy; hard; difficult.
XYLOCARPUS	Niri (Borneo)	Russet; medium; works well.

From the foregoing lists a person with any knowledge of woods realizes instantly that the names of these woods could not be interThe trees that produce these woods are even more distinctly different in flower, fruit, foliage and habits of growth.

Vast Hardwood Forests Once Covered the Far North

Great hardwood forests covered much of Greenland, Spitzbergen and northern Alaska 50,000,000 years ago.

Then these lands had an abundant summer rainfall, a generally humid climate, and a temperature which seldom fell below freezing in winter.

This is the picture constructed by Dr. R. W. Chaney of the Carnegie Institution of Washington from the testimony of a living eye witness—a species of sequoia closely related to the California redwoods which was discovered two years ago in isolated ravines of central China. It is almost precisely the same type of tree as is represented by fossils collected in the lands around the North Pole which now are ice-covered.

Dr. Chaney was primarily interested in the trees growing in close association with the newly found sequoias. They constituted a forest family very similar to that shown by fossils for Greenland and Spitzbergen. Many of these have survived in other places but not with the same associations. It can be assumed that the one place where they have stuck together has climatic conditions quite similar to those of their original home.

Forest Migrated

The picture to emerge is one of a vast migrating forest driven southward over thousands of miles in millions of years as the northern climate changed, and gradually breaking up as different species found suitable habitats. The Arctic forest was flourishing in the so-called "dawn age" of the geologists, about 50,000,000 years ago, when flowering plants, singing birds and the ancestors of present day mammals were first appearing in the world.

There are two other surviving islands of this ancient forest from which the sequoias have been eliminated, Dr. Chaney says in a report to the National Academy of Sciences. One is the hardwood forest of the Wabash Valley in Illinois and Indiana. The other is on the island of Hondo in Japan. In both these places the trees of the great arctic forest found "home-land environments" where they could settle down and live together.

As for ancient conditions in the far north, Dr. Chaney says: "A wet summer climate seems to have been the primary requisite with a total annual rainfall in excess of 40 inches. Moderate temperature seldom falling below freezing is also indicated, although a winter characterized by lower temperatures is indicated by the prevailing deciduous (leaf shedding) habit. Possibly, however, it was the darkness of the Arctic night rather than low winter temperature which brought about the annual shedding of leaves."

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Toy Firm Develops Line of Furniture and Other Items

Salem, Ore. — Alder & Heitz Manufacturing Company, well known furniture manufacturers of the Willamette Valley, have a new item in their wood manufacture known as Hollywood Headboards.

The manufacture of this item involves a number of distinct steps. First, there is the hardwood frame to be covered both front and back with chipboard. This in turn is upholstered with cotton and the back of the headboard is covered with crinaline. Buttons are next in order and these are assembled in the firm's own upholstering department.

Brackets used in construction are obtained from an Oregon manufacturer as are lacquers used in finishing. Both fabric and plastic materials are used in covering. At present 41 models of headboards are being manufactured, the latest being a period-piece hand-carved by a distinguished craftsman.

Besides these specialized products, the firm is prepared to do wood-lathe turning in commercial quantities. Their automatic lathe is adaptable to turning chair legs, ball feet for furniture, coffee table legs, bowling pins and kindred products.

The business was originally started by C. T. Heitz, manufacturing wooden toys. Later he went into partnership with William Adler, furniture manufacturer with 25 years of experience, and in 1948 they doubled capacity of the plant.

About 3,000 feet of western hardwood; ash maple and alder is used each month and all obtained from Oregon mills.

The Heitz & Adler's factory is equipped with shapers, planer, jointer, automatic lathe, sander, mitre and cut off saws, a bandsaw and tools they have designed for their specialized production.

FPRS to Hold Third Annual Convention in Grand Rapids

Leaders of all branches of the forest products industry will head for Grand Rapids, Michigan, next month to be on hand for the Third Annual National meeting of the Forest Products Research Society. This meeting, to be held in the Grand Rapids Civic Auditorium on May 2, 3, and 4, is expected to bring together more than 500 men from the production line and the research laboratories to discuss their mutual problems.

The FPRS, which has grown to more than 2,000 members in little more than two years, includes members from a wide variety of jobs as well as all phases of the forest products industry. This Society offers the only medium through which everyone concerned with research, production, utilization, and development of wood and forest products can come together to compare notes and work toward the benefit of the industry as a whole. This meeting is therefore of particular interest to all forward-looking men — whether members or non-members — anxious to keep abreast of the latest technical developments in their field.

Registration will open at 4:00 P.M. on Sunday, May 1, in the lobby of the Pantlind Hotel. Registration Monday will be at the Auditorium. With Grand Rapids as the site of this meeting, it will naturally feature papers on furniture and the wood working industry. In addition to these, however, there will be a wide variety of talks covering the entire industry.

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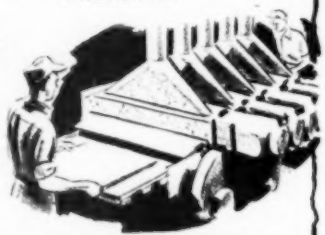

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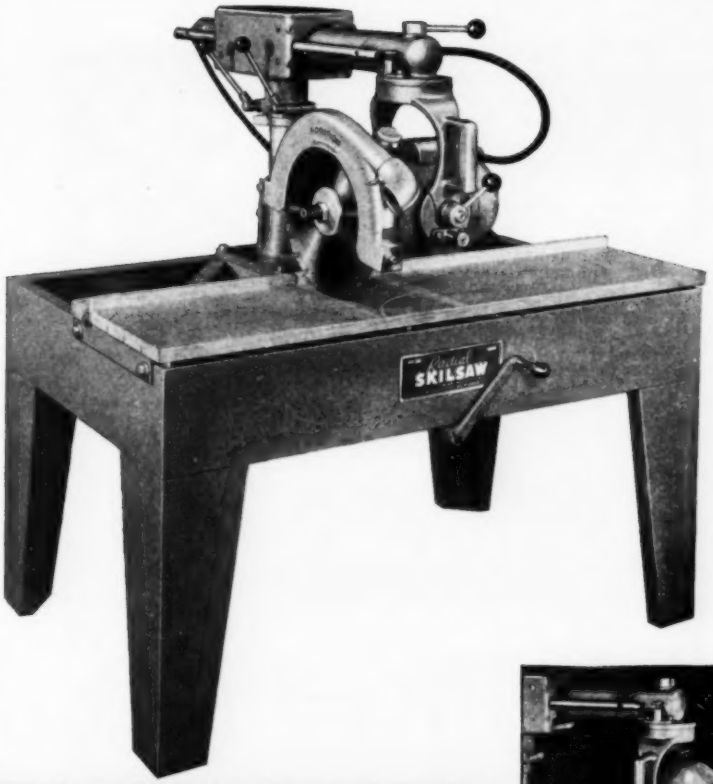

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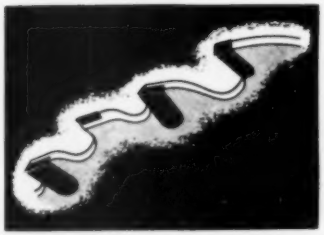
Carbide Tipped Saws

A new development for the smooth trimmer field is the recent practical application of carbide tips to the Mitre, Planer, Smooth Trimmer and Combination styles of saw blades to do the job of ripping, cross-cutting and mitering.

Shown is the Woodsman Carbide—tipped combination blade which consists of 4 smooth sections followed by a raker tooth set with a deeper throat. The 4 carbide teeth are alternately set



on each side of the body so the steel body does not contact the cut—then, follows the raker. The teeth have alternating face shear as well as alternating top bevel angles.

Woodsman smooth trimmer blades provide a similar cutting action to the hollow ground saw. Their greater face shear angle and ample clearance prevent burning and the alternating tooth bevel on the O. D. provides the shear required for cutting clean sharp edges on thin materials.

The advantages of these new Woodsman Carbide-tipped blades are ably presented in an attractive new catalog which is mailed upon request by North American Products Co., 3100 W. Cherry St., Milwaukee 8, Wisconsin.

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Bruce specializes in quantity production on solid and glued-up Southern hardwoods, either completely or partially machined—and in flat dimension stock. Send us specifications or samples on items you need, and we'll tell you what we can do for you.

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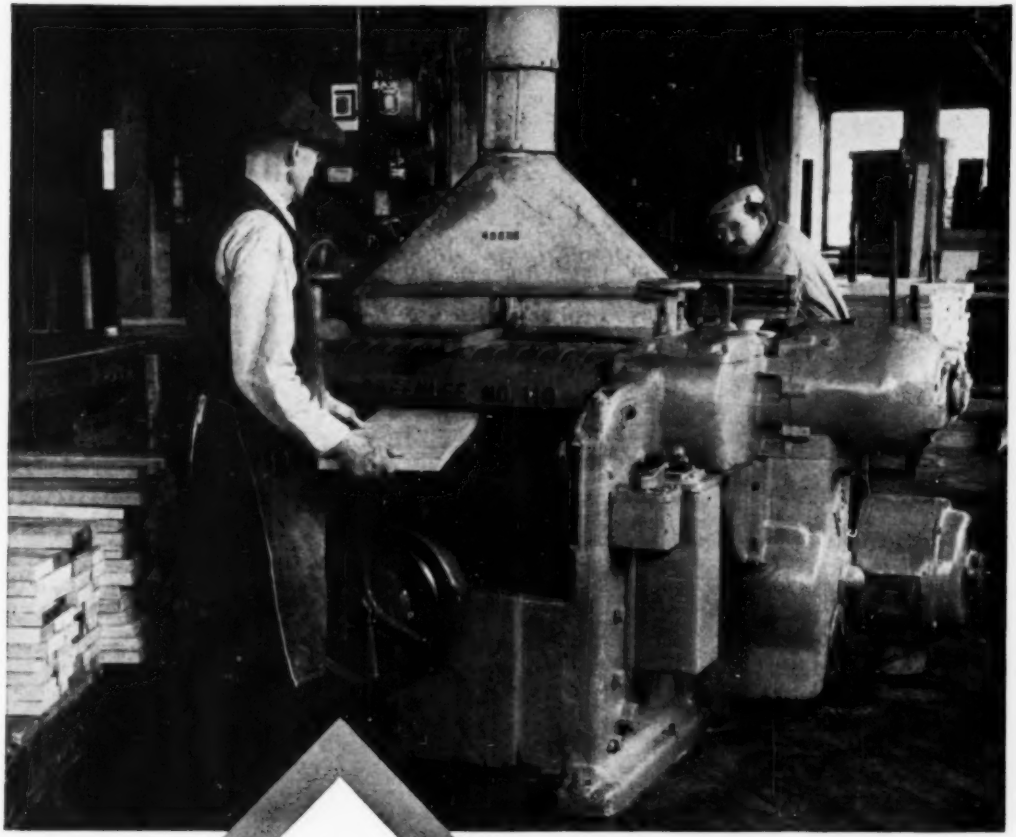
Reseed Burned Areas With Helicopters

Amid national excitement over faster-than-sound airplanes, guided missiles, space ships and such aviation marvels, the comparatively diminutive helicopter goes steadily on winning honors in a workaday world. Previously used with success on forest surveys, in fire control and sowing tree seeds from the air, a small, open-cockpit helicopter is reported by the Forest Service in the U. S. Department of Agriculture to have proved the most efficient means thus far found for reseeding rocky, fire-denuded watersheds in the mountains of southern California.

Since 1932 the Forest Service has been sowing common mustard seed on burned mountain watersheds as the best method of quickly restoring the protective "cover" and thus reducing the danger of these rock-toting floods. Mustard is used because of the comparative quickness with which it sprouts and sends up its yellow-flowered plants. Sown in the ashes of the fires, where possible as soon as they cool off, under favorable conditions, mustard seed comes up within three or four days. The ashes form a cover which anchors the seed against the wind thus giving it a quick start. The seed has a better chance because the fire has driven off the birds and rodents that otherwise might get it. Once up, the mustard holds the soil against the rains until nature has time to bring back the slower-growing native grasses and brush. Finally, the latter not only takes over the soil-holding job but in three years crowds out the mustard.



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It's Time for MACHINE REPLACEMENT

By

Ernest W. Fair

WHEN present equipment shows immediate signs of wearing out and therefore efficiency drops and maintenance costs rise.

—WHEN any machine has become obsolete and cannot do its job in maintaining efficient work so that ones plant may compete with others in the industry.

—WHEN it has become thoroughly obsolete because of limited range or size of work as compared with more modern machinery.

—WHEN it falls so far behind in speed of operation that production costs are far ahead of competitive operations.

—WHEN accuracy of work the machine may be doing becomes less dependable and rejections from its production begin occurring.

—WHEN new designs and new developments have provided stronger and more rigid machines with lower costs of operation.

—WHEN the rate of output of the unit continues to drop and holds up the production efficiency of others in the plant.

—WHEN the installation of the other units in the plant have stepped up production beyond the ability of this one particular unit to hold its own.

—WHEN newer developments in machinery have combined the operations of this machine and others in the plant.

—WHEN it lacks fine controls, special attachments and safety features of a newer designed machine of the same class.

—WHEN it can be replaced with a new machine that will not only do the job the older machine is doing but additional work as well.

—WHEN a new machine recently developed can replace hand operations connected with the use of the present machine.

—WHEN a new machine can increase the ease of set-up of work to be handled to such an extent that production cost cuts in so doing are well worth while.

—WHEN greater convenience and safety or operation can be obtained through the use of a newer type machine or a larger model.

—WHEN the cost of keeping the unit under consideration in operating order has become too high in keeping with the general maintenance costs upon which plant operating schedules are based.

—WHEN the cost of changing or remodeling it will not be too great for the results that can be obtained by this change.

—WHEN spoilage can be reduced sufficiently in order to justify the added costs.

—WHEN greater output or faster speed of operation can be secured in order to lower produc-

Only BOICE-CRANE makes this popular SAW-JOINTER

A 10" tilting-arbor saw and a 6" jointer compactly combined on a steel cabinet stand, and driven by one, rather than two motors

Imitations have saws on which the TABLE not the BLADE tilts. Features improved saw performance by unique drive which permits mounting motor rigidly and separate from machine.

This "complete workshop," especially practical where space is at a premium. Cuts, miters, planes, rabbets, and grooves. Longer table and fence equipment on our jointer guarantee perfect work on longer stock than usually handled on 6" machines. Jointer planes or rabbets ½" deep. The saw cuts stock up to 3" thick, and rips up to 21" wide with standard bars for fence, or to 37" wide with No. 2537 bars at slight extra cost.

Very popular and practical among all classes of woodworkers. Built to last.

Welded steel, cabinet style floor stand arranged to collect sawdust and shavings. Hinged clean-out door.

Possible to use both machines at once for maximum production. Portable enough to take to the job. Overall size: 47" wide; 45" deep; 39" high.

Write today regarding BOICE-CRANE TRU-FORM RELIEF SAFETY CUTTERS FOR SHAPERS. Available for the first time at moderate prices, real production-type two-wing shaper cutters with all the operating advantages of costlier CIRCULAR or INVOLUTE* relief.

Cut the same true original shape and dimensions, right up to the last sharpening. Larger rake, or cutting angle, shears or shaves, doesn't scrape. Up to 50% more usable life. Extra metal where it counts for dozens more resharpenings and extra safety. Adequate initial clearance angle for higher spindle speeds, which never changes when properly sharpened. Result—faster cutting, more production, cleaner cuts. More metal behind cutting edge reduces chipping, crumbling, under heavy cuts; dissipates heat faster on high speed shaping. Percision formed. Razor sharp. Authentic, full-sized commercial shapes. Average 3¼" diameter—hence higher peripheral speed. Write for Bulletin S-1 on Shaper Cutters which illustrates and describes 50 different cutters and cutter sets.

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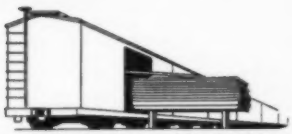
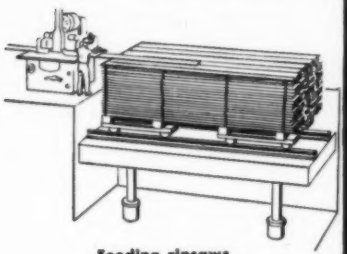
ONE ANSWER TO

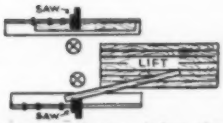
Rising Production Costs



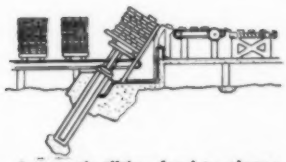
Unloading or stacking lumber



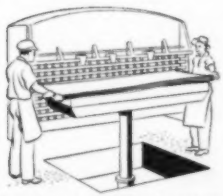
Feeding ripsaws



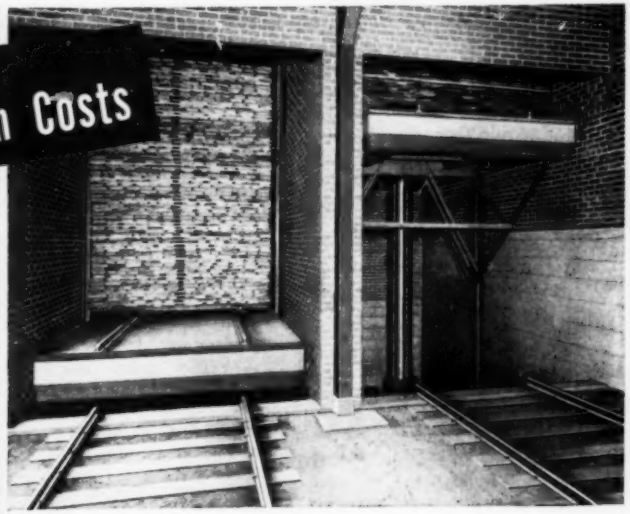
Feeding 2 cutoff saws (plan view)



Automatic tilting feed to planer



Levelator charging a press



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tion costs for today's competitive market.

—WHEN labor costs can be secured by substitution of less skilled operators on the new machine than the highly skilled operator required on the old.

—WHEN the maintenance cost of the new machine will be under that of the present piece of equipment.

—WHEN it will be the means of inspiring better and more efficient work from the men and women who use and operate the machine.

—WHEN the cost of operation of the new unit is well under the cost of operation of the present old or obsolete unit from a power standpoint.

—WHEN the purchase of new equipment can be made without placing too great a load upon the current and immediate future financial condition of the company.

—WHEN money has been set aside for depreciation and is available to make this replacement.

—WHEN the money invested in the new piece of equipment will obviously earn more than it could if invested in securities on the current market.

—WHEN freight costs and costs of installation of the new equipment, when added to its basic cost ,are not too costly at the present time or have a good chance of being less in the immediate future.

—WHEN the salvage value of the old unit is still high enough to make the replacement cost less than a lowered salvage value within the immediate future would bring about.

—WHEN more efficient and less costly lubrication can be obtained on the new machine than the one now being used.

—WHEN a new design of a smaller or more compact nature will permit less floor-space to be used than with the old machine and where that floor space can be put to good advantage.

Of the 439 billion board feet of available merchantable timber in the Douglas fir region of Oregon and Washington, over 331 billion feet are old growth or in trees over 20" in diameter at breast height.

General Plywood Sued by Stockholder Group

Louisville, Ky.—Loss of approximately $500,000 on a venture in plywood barrels for distilled spirits is one of the charges made by Eastern stockholders of General Plywood Corporation, Louisville, in a suit filed in Federal Court, Louisville, March 7, against former officers and directors of the company, charging waste and incompetence.

The suit brought by six stockholders of General Plywood Corporation living in New York and New Jersey, is in the form of a twenty-page petition, in which stockholders detail transactions objected to. During the period between 1945 and 1948 it is charged the corporation purchased plants and equipment costing approximately $3,-200,000, "without a reasonable prospect of use."

Stockholders bringing the action included Harold Levitan, Mae Schneider, David G. Schneider, Milton G. Kenney, Lillian S. Lipak and Julius Smolen, all of whom are residents of New York, other than Kenney who lives in New Jersey. The suit asks for judgment and redress.

Defendants named include Samuel E. Stout, Edwin O. Dulaney, former president; Tinsley W. Rucker, vice-president; Calvin M. Hilton, former vice-president; John L. Farris, former secretary, a resident of Georgia; and W. L. Lyons, Louisville stockbroker, a director; and also the corporation itself.

Speed Production Automatically!

... with Mann-Russell's proved high frequency techniques!

THE Mann-Russell self-charging core-stock press will speed your production because it is regulated automatically to the following steps:

1. **Movement of conveyor into press.**
2. **Application of top and side pressure.**
3. **Breathing of top pressure to assure solid joints.**
4. **Re-application of top pressure.**
5. **Energizing of R.F. electrodes from generator.**
6. **R.F. power cut-off after glue-line cure.**
7. **Release of top and side pressure.**
8. **Movement of conveyor to next charging position, and repeat cycle.**

This superior press is sold, installed and guaranteed by the manufacurers of the Mann-Russell electronic generator. Manufactured on order in press sizes from 24" x 36" to 48" x 96". Complete with lay-up and off-bear tables, on full-length endless electrode conveyor. May be operated manually on single cycles.

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Generators, Presses, Patchers, Etc.
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Plant at 1321 "A" Street, Tacoma
(Licensor "Parallel Bonding" Patents No. 2,434,575 and 2,457,498)

For Dependable Performance, Profitable Operation, Install... **MARION**

MODEL M RIP SAW

● Here is the rip saw to do the job you want it to do in your plant—year in and year out—a newly-designed, performance-proven, straight line, chain feed, glue joint rip saw of the under-cutting type. The MARION MODEL M rips stock 25½" wide to the right of the saw, any width to the left, any thickness up to 4". Rips through 2" stock with a 12" saw blade. It has eight rates of feed in two ranges of four speeds each, all quickly available, and operates smoothly and quietly at any speed. Standard speed range is from 56 to 212 feet per minute. Many new and exclusive features insure the production of precision glue joints.

Compare AND YOU WILL *Insist* ON A *Marion*

- *Fully guarded, interchangeable feed chains and chain ways of new, wear-resistant iron alloy. Automatic lubrication from large capacity oil reservoir.*
- *A new saw dressing and jointing device makes saw blades cut smooth, yet maintains their keen cutting edges!*
- *The all-steel frame is heavy, rigid and practically indestructible. No sawdust accumulation inside!*
- *Rear table plate swings back and downward, preventing jamming. Kick-back fingers adjust automatically, guard thicker stock. Machine can not be started while operator is changing saw blades.*

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MARION MACHINE FOUNDRY and SUPPLY COMPANY

DEPT. WP MARION, INDIANA, U. S. A.

Conditions Change, But Tacoma Still Claims Title Of U.S. Wood Products Capital

Tacoma, Wash.—For years Tacoma was known as the lumber capital of the United States back in the era before World War I and in the 1920's when their sawmills were turning out better than a billion feet of lumber every year.

Today this has changed and the honor goes to Eugene, Oregon, but Tacoma is still definitely "Forest Products Capital of the World."

Actually Tacoma has as many wage earners employed in forest products. The difference is that, instead of working in sawmills where logs are converted only into lumber, these Tacoma wage earners now work in a wide variety of factories where lumber and wood is turned into a great many consumer goods.

The door industry, which makes a product that brings probably five times the man-days of labor per 1000 feet that raw lumber manufacture can create, gives employment to a large segment of wage workers. Last year more than 3,300,000 softwood doors were produced by these factories. Within a radius of 100 miles of Tacoma more than 70 percent of all soft wood doors made in the U. S. are manufactured.

Plywood Big Item

Tacoma manufactured nearly 200,000,000 feet of plywood in their factories last year. This gives employment to more people to process 1,000 feet of wood than raw lumber cutting.

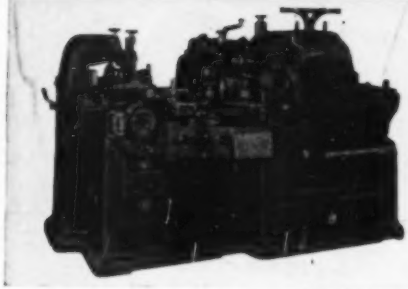
The furniture industry, another forest products wood-using business, is a stable and substantial section of our industrial community. So is the broom handle business, which last year accounted for better than 15 million handles from local wood.

For every tree cut in the future there will be more man days of employment possible, providing that tree goes through the additional steps of manufacture to make it into furniture woodenware, sash and door, door, plywood products, handles, shingles and a wide variety of products being manufactured here from wood. In the neighboring communities of Aberdeen and Hoquiam this transition from a raw lumber producing region to a skilled wood manufacturing section has been interesting and profitable.

The next ten years will witness a remarkable change in the use of wood from the forests.

Already areas like Tacoma are converting leftovers from processing of logs into lumber, into pulp, fibre boards and many other products. This area has what is known as integrated wood using industries.

For Accurate, Fast Production



Mattison No. 276 Electric Moulder

Key operations are the foundation for work that follows, and not only is it necessary to have fast production, but also accurate results. With the Mattison Two-O-Two Ripper and Mattison Moulder you get both. Work comes through uniformly accurate insuring proper fitting of all parts and giving your products that look of quality that comes from precise fabrication methods. Fast production, fewer rejects and less waste provides lower production costs and helps considerably to keep the price of your finished product down.

ASK US TO SEND YOU COMPLETE INFORMATION

It will pay you to get all the facts on these two key machines.

MATTISON MACHINE WORKS
ROCKFORD · ILLINOIS

Sues for Sales Commission

Albany, Ore.—Roger A. Harrison, Portland lumber broker, seeks $1,516,900 in a Circuit Court suit here based on a 1911 agreement.

Harrison declares he bought 8,821 acres of Linn County timberland for Charles R. Sligh, then president of the Sligh Furniture Company, Grand Rapids, Mich., and that he was to get 10 per cent of the net proceeds when the timber was sold.

In 1933—six years after Sligh's death—the timberland was sold to the Santiam Timber Company, a Michigan corporation with the same officers and directors as the Sligh Furniture Company, the complaint says. It adds that $15,168,995 worth of timber has been harvested from the land.

His suit asks 10 per cent of that value from the Santiam Timber Company and firms which he said bought the timber, including Weyerhaeuser Timber Company, M. & M. Woodworking Company and many others. Also named as a defendant is Sligh Memorial hospital of Grand Rapids.

Food, friends and fun

THOSE ARE WHAT men and women have worked for, since time began. No people have ever succeeded fully in achieving all they want of all three, but look around the world and see with what system the people have done best.

There is no question: with capitalism. Here the poorest live better than the so-called wealthy in countries where capitalism has been swept away. Here people are the most fair to each other. Here children have the best chance for life, education, progress. Here people are happiest, safest, most secure.

Then hadn't we better realize that it is the system under which we live that has given us these values? And that system rests on a steadily increasing standard of living made possible by more and more production from better and better machines. Hadn't we better hold on to that principle, rather than let it slip away by allowing communist ideas (there are no communist *ideals*) to creep into our dealings with one another?

OLIVER

A Compact Saw Bench that handles a wide range of work

This easy-operating "Oliver" Saw Bench is unmatched for smooth, accurate ripping, cross-cutting, mitering, dadoing and similar work within its capacity. Saw tilts up to 45°. Rips up to 27" wide with plain fence, 20" wide with universal fence; cross-cuts up to 13" wide, 2 3/8" thick (2 7/8" with 13" saw). Heavy, rigid base, ball bearings, and precision construction insure years of finest service.

Write for Bulletin No. 232-D

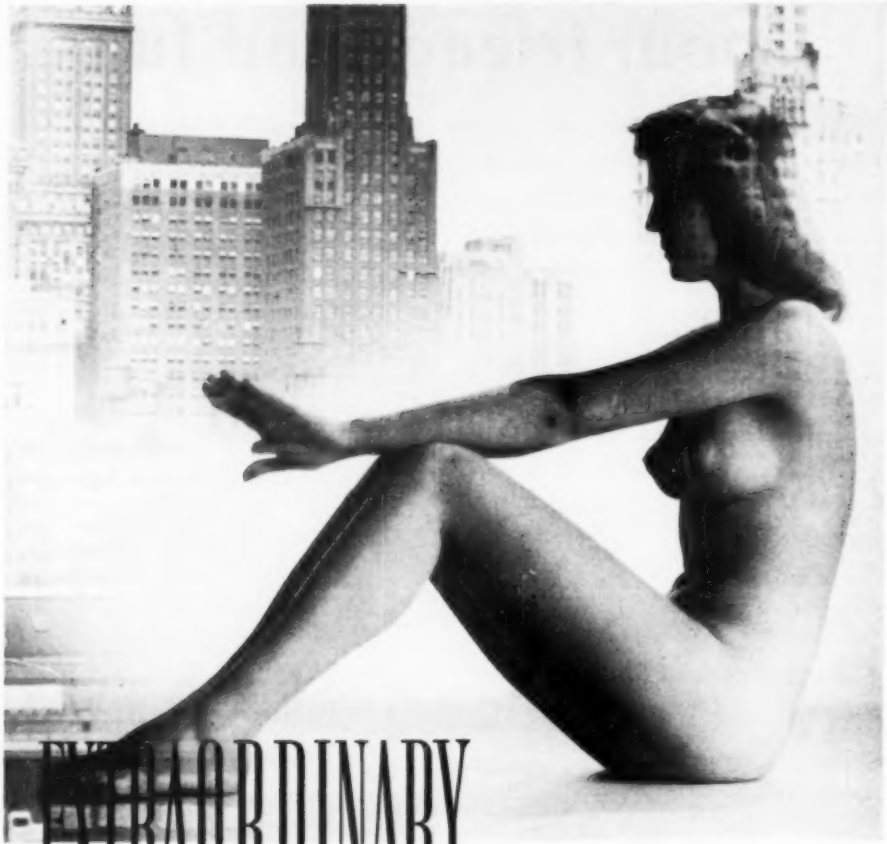
"Oliver" makes
a complete line of
single and double arbor
Saw Benches
in various capacities

"OLIVER"

No. 232-D Tilting Arbor

Variety Saw Bench

OLIVER MACHINERY CO.
Grand Rapids 2, Michigan



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Your inquiry will start a relationship that can be mutually beneficial. No obligation for an analysis of your finishing problem.

No Tampering with Quality

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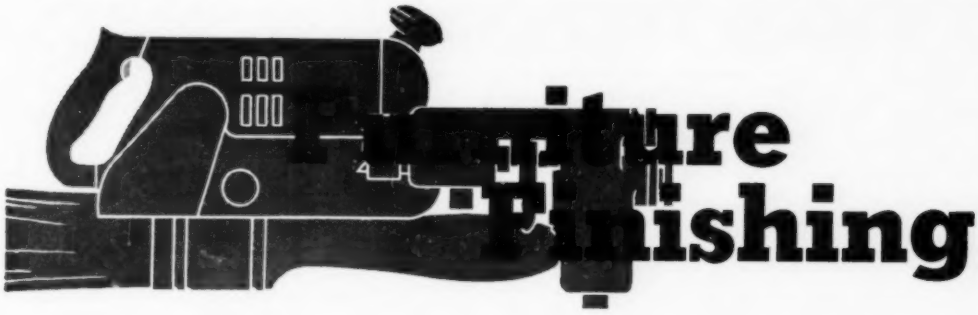
ROCKFORD, ILLINOIS

Manufacturers of Protective and Decorative Coatings



Furniture Finishing

Some Facts About the Proper Finishing of

SOLID FURNITURE WOODS

By
Rick Mansell

The more expensive solid woods include mahogany, walnut, maple and oak. They are strong and hence are favored on finer pieces for posts, legs, stretchers and rails. Mahogany, walnut and oak are used extensively for hand carving on reproductions of Gothic, Jacobean and Elizabethan originals. Maple is used for whole pieces in the entire construction of much Early American furniture.

In production furniture, other solid woods such as birch, red and sap gum, black gum, tupelo and magnolia are widely employed as frames and legs and sometimes for the entire piece. They have unobtrusive markings and are almost white and hence may be stained to harmonize with the more expensive hardwoods. Birch, black gum and tupelo may be stained to resemble mahogany while red and sap gum, tupelo, magnolia and southern willow can be made to give the appearance of walnut. Pecan is also used to imitate walnut but this requires a filler since its pores are much more open than the other woods.

Use of Veneers in Furniture

Veneers are thin pieces of wood manufactured for making plywood—a product in which several pieces of veneer are glued to each or to a lumber core. The grain of one ply is usually at right angles to the adjacent layers. This reduces the natural tendency to shrink or swell with atmospheric changes. It affords maximum strength together with the minimum weight. It combines the strength of sturdy woods with the beauty of fine cabinet woods. Since veneers may be cut thin enough to insure almost identical patterns on consecutive sheets, it affords opportunity for perfect matching. A hundred or more species of veneer are now used in the manufacture of furniture. A variety of effects may be obtained depending upon the method of cutting. By varying the direction in which the saw passes through the wood, quartered and flat cut veneers may be obtained from the trunk of the tree and show different figures. Different sections of the tree may be selected, or deformed and abnormal portions may be cut—longwood, stumpwood, crotch and burl all have characteristics peculiar to that section of the tree alone. Some species have a distinct difference in color and density between the spring and summerwood—the stripes in quartered walnut are formed by growth rings. Different results are also obtained by cutting the wood in order to expose the rays, the end or curly grain. Three major methods are used in cutting veneers; slicing, sawing and rotary lathe. Fancy or face veneers are those used on the exposed surfaces, and they are selected for their color, figure, matching possibilities, grain and general appearance.

Finishing of Mahogany

West Indian mahogany is preferred for fine furniture and carved work, because of its close grain and silky texture. The American mahoganies are generally used for solid parts. For many years a deep red stain was applied to it which tended to hide its figure and characteristics. At the present time it is generally finished with a light reddish brown or brown stain, with or without filler, polished or dull rubbed. A natural finish with no stain will give a light claret to

deep golden brown color to the wood. Bleached effects are not uncommon. Cuban mahogany is particularly suitable for Colonial and Old World finishes, since the wood itself has a dark reddish brown color. A heavier filler is required for the larger-pored African mahogany than for the West Indian and American type.

Finishing of Walnut

Most of the walnut used in the United States is of the American Black species, the color varying from a light creamy sapwood through warm grays to a light brown. Walnut veneers are noted for their wide range of figures, which include burl, crotch, stumpwood and plain stripe to highly figured longwood. The logs are sliced, quarter-sliced, rotary cut or sawn, depending upon the purpose and figure desired. Walnut has the close even grain necessary for carvings such as are found on French and Early English furniture. It has the bending strength and shock resisting ability important for legs, rails, posts and stretchers. It also has warmth, beauty and the excellent finishing qualities required of a good cabinet wood. When it is finished natural, a filler which is either darker or lighter than the wood is most effective. Although it has a warm color throughout the wood, it may be stained lightly before filling. It may either be filled or left open pored. For modern designs it is frequently bleached. It is used extensively for both solid and veneer work.

Use of Oak in Furniture

White oak is of greater importance in furniture manufacture than red oak. The pores of oak are large, especially in the spring wood but they decrease abruptly in the summer wood. They may be filled, partially filled or left open. Figured wood such as found in walnut and mahogany is rarely developed, although oak does have a characteristic figure caused by the unusually prominent medullary rays. This shows up as flake when the rays are cut lengthwise or hen scratch when cut crosswise. It is used in drawer bottoms, office desks, dinette sets and Early English reproductions with their massive carved work. Some modern furniture is also made of this wood.

Use of Maple in Furniture

Most of the supply comes from Northern United States and Canada, and consists mainly of the sugar maple known as rock maple. It has very tiny regular pores and does not require filler. It ranges from a light pink to a reddish brown color. Much of the Early American furniture is made of solid maple because of its strength and hardness. Figured logs are selected for cutting into veneers, producing fiddleback, blister, curly and bird's eye maple —popular as base and trim woods for bedroom and dining room suites, radios and other furniture. Maple may be finished natural or stained in various shades of amber, taffy and honey color, or even silver gray to imitate harewood. Glazes for antiquing are frequently applied over the stain. For modern effects, the maple is bleached, a white lacquer is used and the finish is dull-rubbed.

Use of Red Gum in Furniture

Red gum of the most important of the gum species and grows in the south central part of the United States. It has very small pores and a smooth surface. The heartwood is of reddish brown color and the sapwood is grayish white. It is extensively used in the manufacture of production furniture, for tables and chairs, legs, posts, stretchers and frames of suites made of some other wood but is sometimes used for entire suites. No filler is required although it is sometimes used to give an even color. The wood is

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FREE BORING CHART for wood screws with specifications to simplify bit or drill selection. Write today to Greenlee Tool Co., Division of Greenlee Bros. & Co., 2074 Herbert Avenue, Rockford, Illinois, U. S. A.
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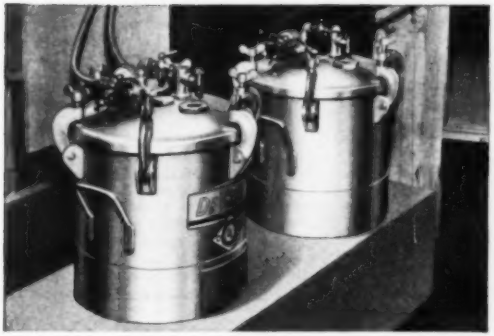
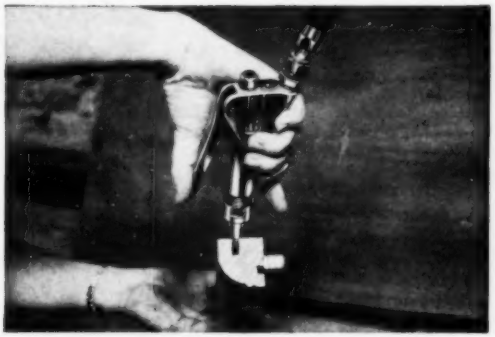
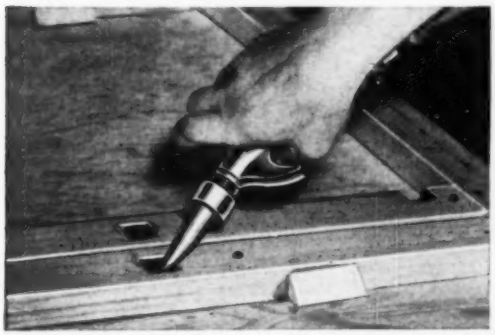
CLEAN, MODERN JOINT GLUING with the Flow Gun!



1. CLEANER – The cold glue mix is kept in one or two standard pressure tanks connected to an air line. From here it's piped directly to individual Flow Guns.

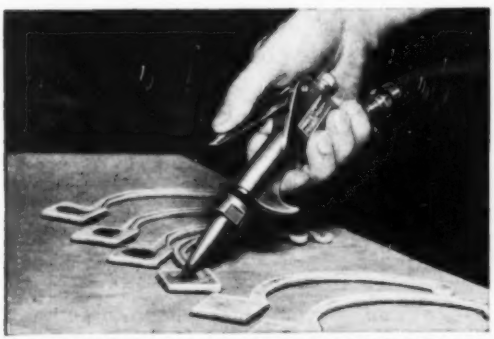


2. FASTER – No waste motion. No interruption for refills. Slight pressure on the handle controls flow of glue into hard-to-reach rabbets, etc.



3. MORE ECONOMICAL – No dripping. No waste. No clean-up. No heating. No maintenance of steam or electric pots. No brushes to replace. No "leftover" glue.

4. BETTER JOINTS – Puts glue where it's needed. For example, glue can be applied around *sides* of dowel hole only, allowing faster assembly, better joint, no squeeze-out.



5. SIMPLER – In operations shown, CASCO No. 959 Casein Glue is left in the equipment for *one week* without cleaning! Photos courtesy of Doernbecher Mfg. Co., Portland, Oregon.

Doernbecher put their assembly gluing on a modern production line basis soon after a CASCO man demonstrated this new Flow Gun. Other plants are quickly picking up the idea. Another reason why it pays to work with glue specialists who know the tricks of the trade.

Complete information on the Flow Gun is available on request.

Technical Service Department

THE BORDEN COMPANY • CHEMICAL DIVISION

350 Madison Avenue, New York 17, N. Y.

Makers of CASCO • CASCAMITE • CASCOPHEN • CASCOREZ
casein and resin glues.

usually stained to resemble walnut, or in some cases mahogany.

Orientalwood

Orientalwood comes from Australia and is brown in color, sometimes marked with black bandings. Almost all logs are cut on a quarter to emphasize the stripe. The pores are visible to the eye and of medium size. The grain is usually straight, but sometimes wavy. It is made most pleasing by an amber stain, a light brown filler and a polished surface. Large quantities go into the manufacture of bedroom and dining room suites, radios and pianos.

Finishing of Some Other Furniture Woods

Prima vera is found in Mexico and produces a pale yellow to light brown veneer with a grain ranging from fairly straight to roey. The pores are visible but not very distinct without lens. Veneers are frequently employed as the major wood for modern bedroom and dining room suites as well as for certain types of period furniture. It may be filled and finished natural or stained a light brown to imitate satinwood —it is usually polished. It is sometimes bleached.

Satinwood coming from India is used for veneers—it is generally cut on the quarter, to take full advantage of the narrow parallel bandings—very little filler is required. It is a silky sheened golden yellow wood, that grows even more beautiful as it mellows with age. It is either finished natural or stained a light brown or orange yellow. Satinwood was an old favorite with Sheraton, Hepplewhite and the Adam brothers. It is a fine cabinet wood and no Louis XVI room is complete without it.

The Myrtle tree is a native of California and Oregon—only the burls are used in modern furniture construction. A natural finish is generally used, although occasionally the wood is bleached. A light brown filler and either a dull or polished sheen is effective. Myrtle often appears in a peculiar mixture of plainwood, stumpwood and burl figure known as a cluster—these are prized for their extraordinary matching possibilities.

Aspen is usually finished natural or in an amber color with a dull rubbed or polished surface. Avodire is finished natural or stained a light brown or golden yellow to match satinwood. Birch may be finished natural as in curly birch veneers, or stained to imitate mahogany when used for solid parts. Bubinga requires a filler which should harmonize with the stain. Narra requires considerable filler and is finished natural or to imitate satinwood. Brazilian rosewood has oil in pores and requires careful finishing to avoid cracks—it is usually filled with a light red mahogany filler and may be stained but the natural is preferred. Philippine Paldao may be very lightly stained and is filled with walnut colored filler. African Sapeli is stained to imitate mahogany: the tigerwood may be finished natural or with amber stain while the zebrawood requires no staining and a natural filler is best.

Casco Gluing Chart Available to The Trade

The Casco Industrial Gluing Chart for wood glues is now being offered interested companies through the Chemical Division of The Borden Company. The handy chart compares general working properties, costs and recommended uses for various industrial wood glues.

In addition, Borden's Chemical Division is offering free consultation service on the best glue for a specific operation. Enclosed with each Industrial Gluing Chart is a Glue Data Sheet. The sheet may be filled out in full, and returned to Borden's, where experts will analyze the data and make glue recommendations to the manufacturer.

The Casco Industrial Gluing Chart for wood glues and blank glue data sheets are available by writing to Technical Service Department, Chemical Division, The Borden Company, 350 Madison Avenue, New York 17, N. Y.

Canadian Wood Factory Suffers Fire Damage

Wingham, Ontario—Loss reported at $60,000 was caused here March 31 when flames gutted the Wingham Manufacturing Co. plant, producer of toilet seats. The factory has been in operation for 25 years and is managed by Charles Cook.

Hard Winter, Log Shortage Reduces Fir Lumber Output

Douglas fir lumber output still reflects effects of the most severe winter in over half a century, according to Harris E. Smith, secretary of the West Coast Lumbermen's association. February production lagged behind the 1943-48 average and log supplies are short.

Closure of hundreds of small sawmills because of a shortage of logs accounted in part for the reduced cut he said. February weekly production of 143,098,000 board feet was 92.6 per cent of the five-year average.

Reports from most sections of the fir region of Oregon and Washington indicate that logging will be resumed in substantial volume by April 1.

It will be "nip and tuck" whether depleted cold decks and log inventories will last until spring logging gets under way. Deep snows have delayed logging camp openings several weeks beyond normal, Smith said.

February lumber shipments averaged 138,474,000 board feet weekly—13 million over January, but they were less than orders and production.

Plan 25th Birthday of Furniture Mart at July Show

The American Furniture Mart will celebrate its Silver Anniversary at the 1949 Summer Market—July 5-16. Actually, it is celebrating 25 years of the most phenomenal growth in the home furnishings industry's annals.

A two-fold program has been outlined: 1) Decorations, "then and now" exhibits, a series of important luncheons, dinners, meetings and everything that will make the event a World's Fair, a World's Series and circus rolled into one. This promises to attract a record attendance. 2) The second objective is to translate this attendance into buying power, and manufacturers are being urged to tie-in in every way possible, to make the event successful in a business way as well as historically and institutionally.

Pearson Company to Make Fishing Boats

Pine Bluff, Ark.—Production has begun on three types of boats, made entirely of Arkansas wood, manufactured by Ben Pearson, Inc. Fishing and pleasure boats will be turned out at a new plant at 1801 W. Fifth Ave.

The head of the boat building plant will be O. B. Clark, formerly associated with a Little Rock boat building concern. The craft made here will be the Portager, a 12 to 14 foot utility fishing boat; the Lakester, cedar-stripped outboard runabout, and the Scooter, a general purpose boat, built along the lines of a duck boat, but enlarged for fishermen.

The Portager will be the mass production boat. Ben Pearson is owner of the company, and Carl B. Haun, president.

Way Found to Control Elm Tree Disease

Champaign, Ill.—The Illinois natural history survey has published a study of elm tree disease which has taken a heavy toll of shade trees in recent years.

Dr. Harlow Mills, survey chief, said the disease is carried from tree to tree by a small leafhopper. The publication describes control methods, including destroying the insect through use of special DDT solutions applied by high-powered spray equipment.

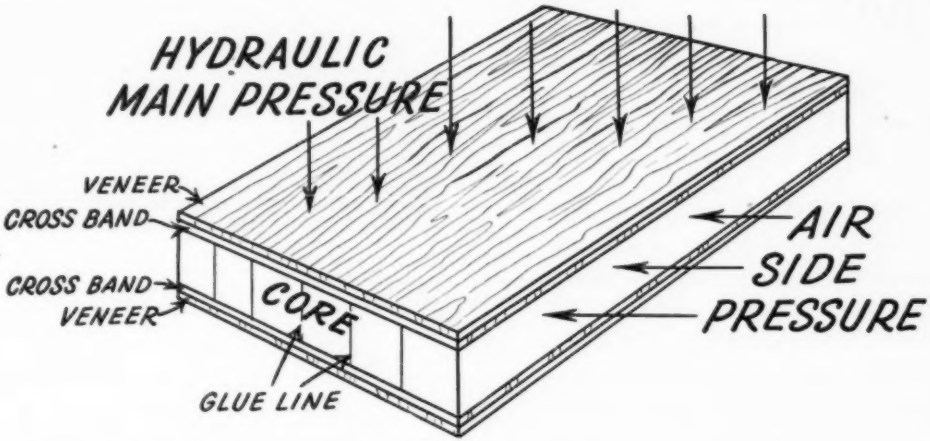
Shipments From Veneer Mills

Products shipped from veneer mills in 1947 were valued at $67,500,000, up 228% from the $20,600,000 of products reported by this industry in 1939.

Now...with a "VB" press

you can make panels

ALL IN ONE OPERATION!



Here is a hot press needed by scores of woodworking firms that does a complete panel making job with a minimum of time and labor, yet at a cost so low that it will soon pay for itself.

At a touch of a button, the series 20 "VB" hot press glues up the core stock, cross banding and face veneer at *one operation*—in from 2 to 2½ minutes with the cold setting resin glues, which in reality is a very rapid hot setting glue.

Saves in lumber stock, floor space, personnel and clamping equipment. Presses are self contained and come completely equipped with motor, pumps and controls. Automatic timer furnishes both hydraulic vertical pressure and pneumatic side pressure for core clamping. Easy to erect, simple and cheap to operate and does a variety of gluing jobs.

The series 20 "VB" automatic hot press provides the means for the manufacture of furniutre panels, etc., at a cost considerably lower than present equipment permits. Let us show you the savings which can be effected in your case. Write today for full details.

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Below is the "VB" hydraulic automatic hot press that has found such wide acceptance in plants all over the country for efficient veneering and laminating. Available in three sizes 36"x72"—44"x88"—36"x52". Gives high, safe production at lowest cost.

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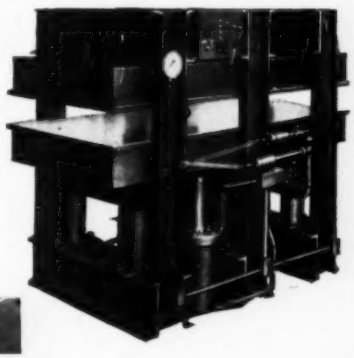
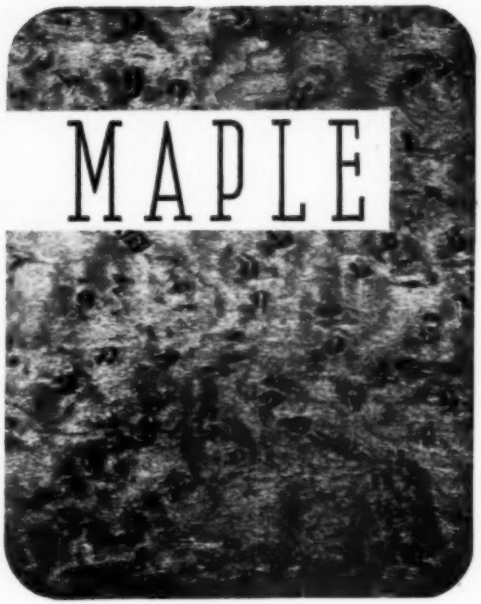


V. BERTHELSEN [illegible] LOCKPORT ROAD P.O. BOX 1423 [illegible]

BIRDS EYE MAPLE



"Memories in maple" are those authentic and artistic reproductions in furniture of that charming era of Colonial splendor which continues to find favor among discriminating buyers.

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Generous samples of Beveco Birds Eye Maple will be gladly sent to alert manufacturers who appreciate the accelerated sales appeal of a wood capable of an almost inexhaustible combination of tints and shades and color variations.

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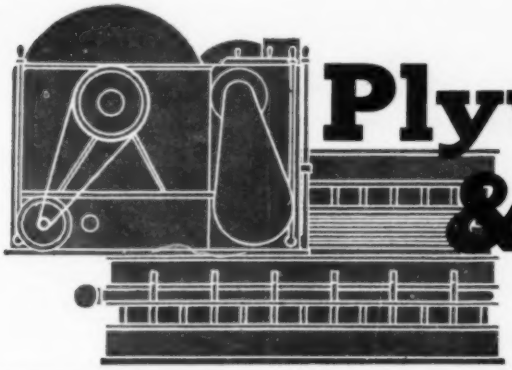


Plywood & Veneer

FABRICATION
APPLICATION

TAPELESS VENEER SPLICERS

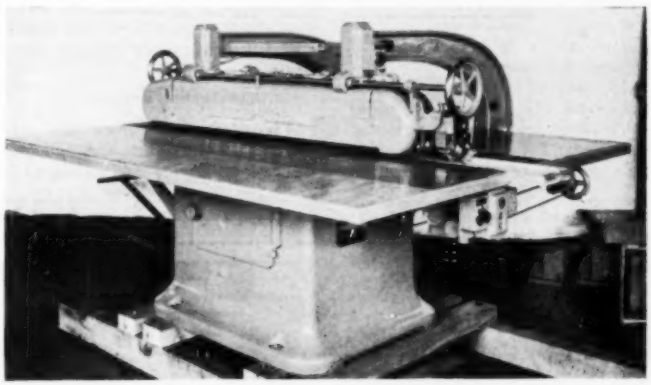
By

Thomas D. Perry

The day of using gummed paper tape to splice standard veneers together is fast passing. The technique is likely to survive only with highly figured or inlaid face veneers, where the end grain makes edge glue joints inadequate. In its place has come tapeless splicing, in which an adhesive is used as the only edge binding agent, and not only is the joint adequately drawn together mechanically, but the need of subsequent sanding of the plywood is greatly reduced.

The presence of a layer of paper tape in any plywood surface joint, even perforated tape, has always been considered a weakness, and its frequency was rigidly limited in government specifications. Tapeless splicer joints, however, were allowed under U. S. specification AN-P-69a, and such splicer veneers were considered the equivalent of one-piece veneers. This government approbation of this technique was especially encouraging and did much to reduce the waste of narrow strips of selected veneers for critical service.

These tapeless splicing machines have been in service long enough to thoroughly demonstrate their worth, since several thousand are in successful use; there are four batteries of ten machines each in plywood factories, with a number of installations of from three to six machines in furniture factories. Some ten years of practical experience lie behind these modern machines, which have been evolved



(Courtesy of G. M. Diehl Mach. Works)

Fig. 1. TAPELESS SPLICER WITH RESISTANCE TYPE HEATER BARS.
Above: Thickness adjustment wheel for raising and lowering head according to veneer thickness.
Right: Regulator wheel for speed of feed chain.
Front: Operator controls; start and stop buttons and temperature regulators for upper and lower heater bars.
Glue reservoir and drive for applicator wheel directly above, are behind start and stop buttons.

from the earlier taping machines, through successive stages that are not unlike the history of the old fashioned buggy, through the horseless carriage period and into the present day automobile. In the early tapeless splicers the veneers were carried by pairs of upper and lower angling rollers, against a central fence, and between steam heated bars.

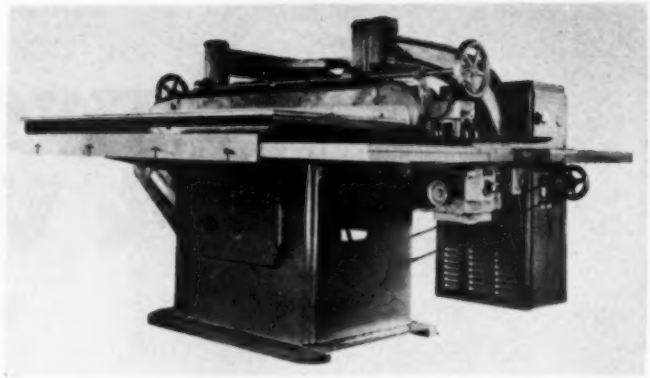
Each step of the successive improvement was demonstrated by practical experience, than which there is no better method, and both the machine manufacturers and the machine operators were persistent in their endeavors to reach the present stage of reasonable perfection, which is by no means the ultimate goal. Older tapeless splicers have become obsolescent and have been junked, with new models taking their place in industry.

Other co-operators in this development have been the manufacturers of resin adhesives, who have striven to provide glues that would produce strong flexible joints in the shortest possible curing cycles.

An examination of these modern tapeless splicers is illuminating in showing how each feature is adequately designed to do its work well in a minimum of time and with maximum efficiency.

Feeding Mechanisms

The veneers, after the edge glue is applied, are forwarded between two pairs of continuous endless chains, above and below, that converge slightly toward the delivery end of the machine. The surface of these chains provides a firm grip on the veneers and holds them flat during the curing cycle of the adhesive, and until the veneer edges are firmly gripped together. The feed chains and race ways are of steel alloys that provide long wear and require a minimum of adjustment, except for different thicknesses of veneer. At the infeed end of the chain, the veneers are fed against a central fence, to bring the edge joint directly under the center of the upper and lower heater bars. Normal feeding speeds range from 15 to 85 feet per minute, depending on the thickness of the veneer and the dexterity of the operator. An operator has to be "good" and have everything favorable to run steadily at the rate of 60 feet per minute.



(Courtesy of G. M. Diehl Mach. Works)

Fig. 2. TAPELESS SPLICER WITH ELECTRONIC TYPE HEATER BARS.
Right: Separate electronic transformer, approximate output 3 K. W.
Below: Clearer detail of transmission chains and glue reservoir, with single temperature regulator at left of start and stop buttons.

Heating Devices

The heat for curing the adhesives in the joint, through the upper and lower heater bars, is electric, which is much more convenient to apply than the earlier steam heat, requiring extensive piping and the continuous removal of condensate. There are two methods of utilizing electric heat, normal frequency resistance units and radio frequency or electronic distribution.

Resistance Heat. This is applied through heating units, such as are employed in an electric flat iron. The units are located adjacent to the metal heater bars at frequent intervals, and the degree of heat is automatically regulated by thermostats, ranging between 250° and 450° F., the maximum that some species of wood can withstand without beginning to discolor. The heater bars, which come in direct contact with the glue line, are of solid steel, chrome plated and polished. They are easily removable for cleaning,

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since hardened particles of cured resin may have a tendency to clog, and if not removed, may wear away the surface of the heater bars unduly by abrasive action. The heater bars are wider at the infeed end and taper to a lesser width toward the outfeed end, to compensate for the converging feeder chains. It is important that heater bar pressure be enough to keep the veneers in alignment and not too much to retard the chain feed.

Since resistance heat is applied to the surface of the veneer, its speed of penetration into the joints will depend on the thickness of the veneer. Thicker veneers slow down the permissible feed from about 60 to 30 feet per minute between 1/20 and ⅛ inch veneer. In order to increase the rate of heat penetration, average temperatures of the heater bars at 350° F. for 1/20 veneer, are raised to around 435° F. for ⅛ inch veneers. These temperatures should be no higher than is necessary at a given speed to give a firm edge grip between the veneers at the outfeed end.

Electronic Heat. (Radio or high frequency, diathermic.) The use of this method of applying electric heat is relatively recent and can be employed to shorten the curing cycle of the resin adhesives. High frequency currents penetrate wood rapidly and the necessary adjustments for veneer thickness are greatly reduced. In addition, the wet glue line in the joint is heat selective and its temperature rises much more rapidly than that of the adjacent wood. The frame of the machine is grounded, including one heater bar, and the other heater bar is well insulated from near by metal parts. These heater bars become the electrodes, comprising the field, in which the current flows directly through the glue line between the veneers. Thus the cure of the resin adhesive is not retarded by the progressive penetration of the heat into the wood, and operating speeds are materially increased. This rapid heating also permits the splicing of wood members up to ½ inch thick, and substantially increases the range of this machine beyond normal veneer thicknesses and into thin lumber cores. Actual factory experience has demonstrated that ⅝ inch lumber can be fed at around 30 feet. However, the weight of this thicker lumber presents some difficulties in handling, particularly in large areas, usually built up from narrow strips. The power consumed in heating is said to be about 5 K.W. hours.

With the exception of the modified electrical distribution, this machine differs but little from that using resistance heat.

Veneer Preparation

Experience has shown that jointed edges on veneer, made by multi-blade revolving cutter heads, are preferable for tapeless splicing over knife joints (gulliotine) or sawn joints. The knife joint tends to be slightly distorted and out of square, while the sawn joint is a bit too rough. Veneer, particularly the thicker types, should be well flattened in redriers to insure square edges and to facilitate feeding over the table and between the feeder chains.

Glue Application

The proper application of the adhesive is of prime importance and three methods are in general use, viz.:

A. *Applicator Wheel.* Tapeless splicer machines can be equipped with a glue spreading wheel and reservoir, just under the table at the infeed end. A pointed face wheel applies the resin adhesive to both mating edges of the joint, immediately after it leaves the center guiding fence. Some users

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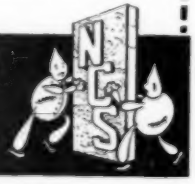


find this quite satisfactory. Others claim that while the reservoir is equipped with a device for lowering, its filling and cleaning and also the adjustment of the spread to a minimum basis, may any one of them cause delays of consequence in the operation of the machines. Furthermore, the exceedingly short interval, between the application of the glue and the heat of curing, does not allow the partial evaporation of the solvent, which, in some types of veneer work adhesives, is regarded as important in obtaining strong and consistent edge bonds.

This applicator wheel may also serve a supplementary purpose, that of applying an additional solvent, where long assembly intervals are required, or when delays occur between normal spreading and the cure of the adhesive.

B. *Jointer Application.* This is the more common method of applying edge glue, and in such cases the jointer is equipped with a special glue reservoir and spreading roller, applying the adhesive immediately after completing the jointer cut. It is easier to apply the necessary thin spread over a considerable area of edge veneers while they are under pressure, than when the edges are spread singly. It is also simpler to regulate the spread over a relatively wide roller than over a tapering sharp faced applicator wheel.

Veneers, in books, are tightly clamped during jointing, and the books may be held vertically or horizontally. In some cases the cutter head carriage and glue applying mechanism reciprocate on ways, while the book of veneers is stationary; in other cases the clamped bundles of veneer are moved over the fixed location of the cutter head and glue roller. The piles of veneer are jogged to one edge, jointed, spread and then rejogged to the other edge and spread again. Double spreading, on both mating edges, is essential for good splicing.

C. *Brush Application.* This is the least used method, but is a simple process when other methods are not available. Brushing should be always from the middle of the pile of veneers toward the ends, to avoid end accumulations that might foul the heater bars. Packages of veneer are stacked, jogged and clamped (or weighted) for brush spreading.

After methods B or C have been employed, the veneers are fanned out to permit the evaporation of any surplus solvent from the glue. In order not to have excess squeeze out over the surface of the veneer, very low spreads are mandatory; almost unbelievably low. Heavy spreads tend to produce a thick glue line and the squeeze out distributed by the heater bars on the face of the veneer along and near the joint, make subsequent gluing into plywood much more difficult.

Glue Mixtures

The ingredients included in the glue mixture are important; to give a reasonably long pot life of around two hours, to permit a quick cure, and to avoid fouling the heater bars. For the latter purpose a water soluble lubricant is usually specified, not enough to sacrifice adhesive strength, and yet enough to reduce the fouling tendencies. Most resin adhesive manufacturers supply special formulas for this type of gluing, depending on the operating schedules required. It will be found helpful to follow their recommendations.

The character of the glue mixture largely regulates the permissible time between spreading and curing. In many cases an hour is adequate, but assembly line intervals of ten hours and up are possible with special formulas. In such cases a supplementary solvent may be required and is applied by the applicator wheel in the tapeless splicer.

Resin adhesives are preferred for tapeless splicing, in fact the writer knows of no machines of this type using other than resin adhesives.

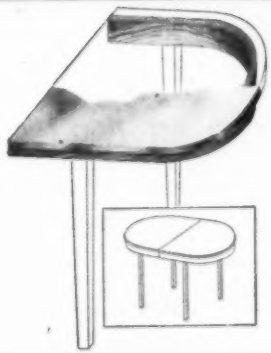
Operating Features

A tapeless splicer with resistance type heater bars and glue applicator wheel is shown in Fig. 1, with operating devices indicated in the caption.

Ingenious operators have added an inspection station at the outfeed end, beyond and below the table level, with a light bulb directly below the emerging joint. Open joints can be readily detected and immediately returned for resplicing.

A view of the tapeless splicer with electronic heater bars is shown in Fig. 2, which differs from Fig. 1, chiefly in the electrical devices.

Directly over and parallel to the table, are horizontal aprons, sufficiently above the table to permit the passage of veneer during the curing cycle, with an extra plywood table top at a still higher level for the return of partially spliced veneers from the outfeed



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to the infeed end. This is a desirable separation of the veneers moving in opposite directions, which has been developed for this type of machine, and can be added to earlier types.

Conclusions

The development of these tapeless machines is an outstanding example in the woodworking industry, where antiquated and second-hand machines have often barred progress, of close and encouraging co-operation among the parties involved. It is also evidence of the ready acceptance and adoption of new and better techniques. It is an example that manufacturers of other types of woodworking machines could well follow up for the benefit of all concerned.

You're Invited

The editor of Wood Products invites readers to send in news releases about the firm's personnel changes, new products, earnings statements, promotions, new equipment purchases or any happenings that might occur. Feel free to send in any and all such news at any time.

Files Salary Suit

V. G. Gordy, president and general manager of the Owosso Manufacturing Company of Benton, Ark. until his dismissal two weeks ago, has filed suit in United States District Court at Little Rock for $13,750 which he claimed due in back salary. The firm is a Delaware corporation which has been in furniture manufacture at Benton since 1922. Mr. Gordy said in his suit that he is a director and owns 25 per cent of the common stock.

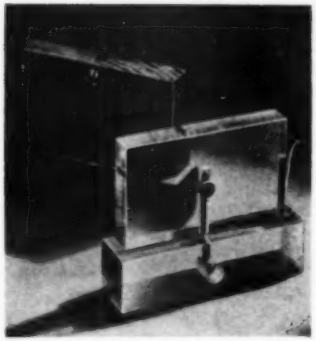
Furniture Co. Picks New Name

Washington Furniture Manufacturing Company of Seattle and two of its affiliates have been renamed each to include "Craftmaster" in their new signatures, L. Kenneth Schoenfeld announced as president.

Announce New "Flash-Evertite" Joint Cam-Locks

The Western Automatic Machine Screw Company of Elyria, Ohio has announced the establishment of a new division of their company to handle the manufacture and sales of a new product — "Flash-Evertite" Joint Cam-Locks. The exclusive manufacturing and sales rights were recently acquired from John Paul Denne and the International Cam-Lock Corporation, the original patentees of this revolutionary development.

Variations of the original product have been designed for chairs, desks, and tables.



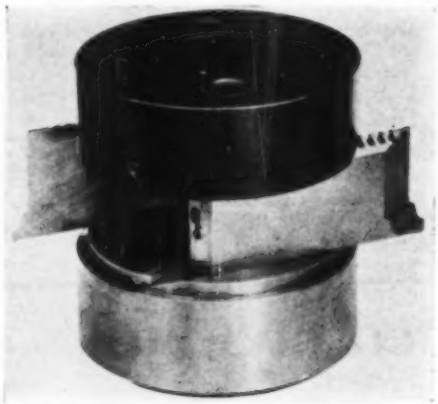
Wood sample shows "Flash-Evertite" Joint Cam-Lock construction applied to bed post —bed rail construction. The plastic model shows the inner mechanism. One set screw locks or releases the joint.

Cam-Lock construction replaces wooden dowel and glue joints with whole steel joints and makes it possible to assemble and disassemble mechanically in a flash.

It provides a mechanical means of rapid mass production and economical shipment. Construction is rigid, streamlined and sanitary.

The Company invites manufacturers to address specific inquiries to Cam-Lock Division, Western Automatic Machine Screw Company, 790 Lake Avenue, Elyria, Ohio.

"Tool Up With Woodworkers"



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The Utilization of WOOD WASTE

By

Robert S. Aries*

Much has been said and written lately on the subject of waste wood utilizations. Yet the actual commercial applications have been few and far apart. The year 1949 finds the processors of wood products with leveled markets for their primary products and despite the numerous writings to the contrary, few or no markets for the waste wood.

Since the work of the Northeastern Wood Utilization Council has been of a practical nature, translateable into wood waste using plans, it is believed that it may be of interest to others who have wood waste problems.

The Northeastern Wood Utilization Council was organized in 1942 for a concerted attack on the problems of low-grade wood and wood waste. There is a growing conviction that profitable markets for this type of material are the key to sound forestry. One phase is the large amount of sawdust and other forms of waste accumulated by sawmills and wood-using plants. Early in our work we secured by mail some idea of the plants in the region that were facing a disposal problem. This method gave us a general sampling of the problem.

Recent technical developments have opened up certain opportunities for local plants that might utilize wood waste. It seemed important to learn where sufficient concentrations of waste were to be found, and the kind of raw material available. This information was through personal contacts.

The survey was confined to permanent sawmills and wood-using plants of various sorts. Pulp mills were not included, as they present a different problem, covered in recent bulletins of the Council on sulfite waste liquor and its possible uses, and the utilization of bark. Nor was any attempt made to cover the waste in logging operations. Certain studies indicate that tops and branches, worked up by the new portable chippers, might be used to supplement the waste available in local wood-using plants.

The possible uses for wood waste found, reflect the investigations carried out by the Northeastern Wood Utilization Council both in this country and in Europe. Technical knowledge continues its rapid advance.

Part I.—The Wood Waste Situation

With the advance in wood products research, waste is coming to be thought of as merely unutilized wood material. To the chemist, the wood that is discarded is no different from the wood that is used. The economist and business man, however, ask whether handling the discarded material and turning it to some special use will be worth the cost.

Of trees cut for lumber, only 68 per cent of the cubic volume is used for the purpose. In other words, 68 per cent of the volume of trees harvested in the forests, or more than two-thirds, is waste, as far as the industry is concerned. For the sawmills and wood-working plants of New England, for example, the total annual waste is estimated at 172,300,000 cubic feet. Of this, 87,600,000 cubic feet occurs in logging and 84,700,000 in manufacture.

The present report is concerned with the manufacturing waste. For New England, it is estimated that the sawmills and wood-working plants reject each year 44,200,000 cubic feet of slabs, edgings and larger pieces, and 40,500,000 cubic feet of sawdust, shavings and fine material, according to figures by the U. S. Forest Service.

Current Uses

1. Fuel

Of the manufacturing waste, 74%, or 62,800,000 cubic feet, is reported by the U. S. Forest Service as being used for fuel, presumable by the sawmills and wood-working plants to supply needed power. In addition, a certain amount of slabs and larger pieces is sold locally for domestic fuel, at prices ranging from $0.00 to $5.00.

The value of wood for fuel depends on several factors. First, the weight of the original wood. A cord of heavier hardwoods, such as sugar maple, birch, beech

*The author is a New York consulting engineer, a professor of chemical engineering at the Polytechnic Institute of Brooklyn and the technical director of the Northeastern Wood Utilization Council.

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and oak, may have a BTU value nearly equal to a ton of coal or 200 gallons of fuel oil. Comparatively, the value of softwoods is low. Second, the moisture content. Because of the water that must be evaporated, green waste is worth only half as much as kiln-dry waste, with air-dry waste occupying a place between these two extremes. Third, the efficiency of the combustion equipment. Fourth, the relative price of coal and oil. Because of the distances required for transporting these fuels from tidewater, the price of coal appeared in the Northeast to range from $8.00 to $14.00 per ton, with a corresponding difference for fuel oil.

Taking these four factors into account, the value of a ton of waste, when used as fuel, would appear to range from $2.00 for green softwood waste inefficiency burned to $9.00 a ton for kiln-dry hardwood material burned with up-to-date equipment, and in areas at a distance from coal mines. In many cases it would be cheaper to buy coal or oil for fuel and turn the waste to more profitable use.

2. Bedding

In dairy regions, sawdust is in demand for cattle bedding, selling by the "load" for what probably would be the equivalent of between $3.00 and $8.00 a ton. In southern New England, the supply is short and even small portable mills are cleaning up their piles. From a fertilizer standpoint, there is a certain prejudice against hardwood sawdust, but agricultural experts assure us that this is not justified. Reasonably dry sawdust makes excellent bedding for livestock, absorbs nitrogen from the droppings and urine, and with the addition of superphosphate supplies a complete fertilizer. (See "Wood Products for Fertilizer," Bull. 7, Northeastern Wood Utilization Council, 1945).

3. Commercial Uses of Sawdust And Shavings

There is some demand for baled sawdust and shavings, which are shipped to dealers in the larger cities. There are many different uses for the material and specifications vary accordingly. F.o.b. prices range from $10.00 to $15.00 a ton.

4. Wood Flour

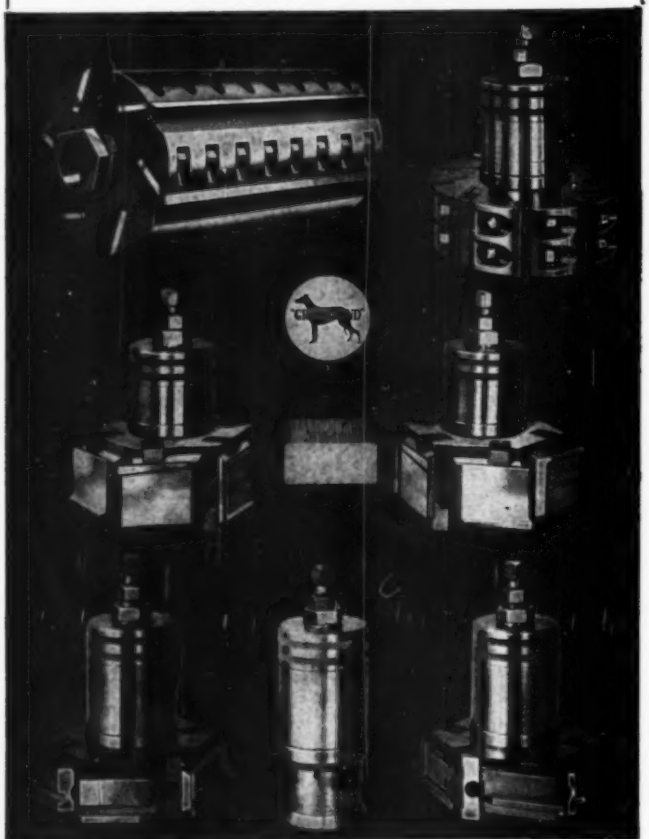
A limited amount of sawdust is used for making wood flour. Bark free pine sawdust is required, and kiln-dry material is preferred, though modern drying methods have made it possible to use green sawdust. There are several wood flour plants in New England—such as Plastics Materials, Inc., Newhall, Me.; Bakelite Corp., Bath, Me.; Wood Waste Products Co., Laconia, N. H.; Wood Flour, Inc., Winchester, N. H.; and smaller installations at Norway, Me., and Laconia, N. H. F.o.b. prices paid for suitable sawdust range from $4.00 to $7.00 a ton.

Possible Methods of Utilization

1. Improvements in Fuel Use

In larger plants where fuel is the most economical use for waste, it would pay to introduce some of the improvements in the drying and combustion of waste that are being developed for pulp mills, which must dispose of bark. These are touched on in a report of the conference in 1948 on the Chemistry and Utilization of Bark. (Bulletin 25, Northeastern

CUTTER HEADS - - - For Every Possible Requirement



Jones & Orth Cutter Head Co.

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Wood Utilization Council, 1949).

The sale of waste wood for use as a domestic fuel probably could be increased by the use of magazine stoves and furnaces operating on the distillation principle. This type of equipment, developed in Europe, makes the burning of wood much more efficient and convenient. (Members of the Northeastern Wood Utilization Council have designed a warm-air furnace and space heater, which it is expected will be in production before the winter of 1949-50). In rural regions where wood is the logical fuel, for large boilers in institutions and commercial buildings, the wood could be chipped and fed mechanically to a Dutch oven attachment. Waste wood would fit into this picture.

Several mills in the Northeast have introduced the domestic sawdust burners common in the Pacific Northwest, where sawdust is fed by gravity to a small Dutch oven, attached to an ordinary stove. They supply a good market for sawdust, where a steady supply is available. The equipment is manufactured by the Western Foundry Co., 2400 S.W. Hood Ave., Portland, Ore., and other companies in Portland.

2. Producer Gas

Where the power load is fairly steady, turning wood into gas as a source of power is more efficient than burning it for the generation of steam, since only two energy conversions are required instead of three. The Smith Lumber Co. in South Londonderry, Vt., for example, has installed one of the gasogenes manufactured by the Vincze Machine Works, Inc., 58-31 219th St., Bayside, N. Y., where slabs are gasified to operate a standard gas engine. Dr. C. E. Jenkins of East Westmoreland, N. H., has patented a gas producer which met satisfactorily a preliminary test at the Mason Laboratory at Yale University. Shredded waste, even in wet condition produced a gas that was practically free from tar and with a combustion efficiency of about 90%, as compared with probably 50% for the ordinary sawmill boiler.

3. Wood Parts

The larger pieces of hardwood waste, with veneer cores as the outstanding example, are suitable raw material for turning articles of small dimension, such as spools and bobbins. This exchange is already carried on to a limited extent, notably by New England Box Co. to Pittsburgh Plate Glass Co. To extent such use of valuable wood, now largely wasted as fuel, would require the development of a clearing house system, by which plants that could use such material to advantage could be put in touch with other plants, within economical hauling distance, that would have it to sell.

4. Charcoal

The closing down of most of the wood distillation plants in recent years has made charcoal rather short in long term supply, creating an opportunity for further production. There are three main outlets; dealers in domestic charcoal in the larger cities, the shade tobacco or other growers, and metallurgical and chemical plants. By-products from distillation with rare exceptions can no longer meet the competition of products from coal, petroleum and fermentation. The tendency today is to concentrate on charcoal production, which requires a very much smaller investment. Portable cinder block kilns have been designed, and one man can tend a battery of four 2-cord kilns. New methods have been developed in Europe. One design from Switzerland, on the continuous yield principle, producing 3½ tons of charcoal per day from about 4 cords of wood, probably could be set up for $15,000, and would be adapted to the utilization of waste. No one should go into charcoal production until he has contracted for the marketing of his product. ("A Portable Cinder Block Kiln," Conn. Agric. Experiment Station, Bull. 494, 1946; Northeastern Wood Utilization Council, Bull. 10, "Charcoal Production," with cinder block kilns 1946; Bull. 15. "Wood Distillation," 1947, Bull. 24. "A Small Continuous Wood Distillation Unit," 1948).

5. Activated Carbon

Activated carbon, or charcoal that has been given a special porous quality by the removal of the more volatile constituents, is in considerable demand for water purification, sugar refining and other uses. New methods of production have been developed, and there appear to be further opportunities based on wood waste. For satisfactory plant operation, production should be at least several tons of carbon per day. This would require a considerable amount of dry sawdust or other low-priced wood waste. The process is highly technical, and requires a thorough knowledge of both production and uses, each of which has its own specifications. (See for example, R. H. Twining, in Bulletin 15, "Wood Distillation" Northeastern Wood Utilization Council, 1947, p. 45).

6. Shredded Waste

In many areas, the supply of sawdust for cattle bedding, within trucking distance, is short, with prices high. This situation seems likely to continue. It might pay to install a wood hog and shred waste for this market.

7. Wood Molasses

Molasses, for use on farms for cattle rations and the treatment of ensilage, can be made from wood by separating the wood sugar from the lignin by hydrolysis with sulphuric acid. This possibility is now being explored by the U. S. Forest Products Laboratory. Between 106 and 200 gallons have been secured from a ton of dry wood. Softwood can be used, but hardwood is preferable, because of the large proportion of pentose and the higher yield. The technical process has been carried out, but production costs are still uncertain. Molasses from wood, for local use, may or may not be able to compete with commercial molasses at normal prices.

Hardwood molasses from a number of local plants might be brought to a central location and fermented to produce protein for animal food, for which there is a steadily increasing demand. (Cf. "Wood Yeast for Animal Feed," Bull 12, Northeastern Wood Utilization Council, 1946). Alcohol produced by the hydrolysis and fermentation of softwood sawdust probably cannot compete with alcohol from other sources, and in any case most areas would not have large enough concentrations of raw material.

8. Pulpwood

With the growing demand for paper and the shortage of spruce, the pulp and paper industry has begun to use both pine and hardwood for pulp. Sawdust cannot be used, because of its short fibres. Other forms of waste might come into the picture, if bark

could be eliminated. By chipping the wood and removing bark particles by a new method, it might be possible to secure raw material for pulping that would equal ordinary pulpwood, with the added advantage that the "pulpwood" was already debarked and chipped. The delivered price for rough pulpwood is now about $6.00 to $8.00 a ton. This possibility is now being investigated by the Council and the Northeast Pulpwood Research Center. The Council has a design for small plants to make pulp for container board from hardwood by the semichemical process, where the equipment for 10 tons a day would cost only about $125,000.

9. Roofing and Insulation

The industries which use defibrized wood for roofing, insulation, floor coverings, etc., are less exacting in their requirements than the pulp mills, and bark is not a drawback. The larger sizes of wood waste could be used, in both softwood ahd hardwood; usually the plant wants 50 per cent pine. At the present time, there are several such plants and further opportunities exist.

10. Fiber Board

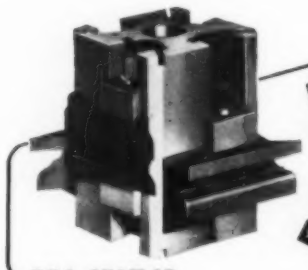
Fiber board is in increasing demand for building and other uses, as a supplement to lumber or in some cases a substitute. Since it can be made from sawdust by the application of heat and pressure, with or without a binder, this would seem to be the most promising outlet for sawdust, shavings and hogged waste, where a sufficient supply is available. New processes have been developed during the last few years, both in this country and in Europe. These, like the Hardwood described in the next section, are usually covered by patents, but their use could be obtained under license. In the wet process, the hydrolyzed fibers form the binding material. The Northeastern Wood Utilization Council has carried out intensive studies on the production of insulating boards from sawdust, chips and pulpmill waste, mostly bark. The cost of a plant to produce 60,000 board feet per day, requiring 20 tons or more of wood, was estimated at $300,000, and the unit cost per 1,000 board feet of half-inch board at $25.00. The various methods of producing fiber board will be reviewed at the invitation conference sponsored by us on Wallboard from Waste, to be held at the Harvard Business School on September 16th.

11. Hardboard

Harder plastic material, either flat or molded in various forms, can be made from sawdust by the addition of phenolic or other resins. There are various processes, each with its special formula. The well known Masonite process explodes the wood fibers, thus activating the lignin element, which binds the material without the use of resin; the company may eventually establish a branch plant in the Northeast. The original Masonite patents have expired. Hardboards, because of their superior quality, command a higher price than ordinary wallboard. To justify the expensive hydraulic press that is usually necessary, a plant would need a fairly large production, with a corresponding supply of raw material.

Summary

Every sawmill and wood-working plant faces the problem of



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Box Factory: Alturas, Calif.

wood waste, representing a certain percentage of its raw material. Some way must be found to dispose of this accumulation. Merely to haul it away to a vacant field involves an expense of from $2.00 to $4.00 a ton. If profitable uses can be found, this expense is avoided and the cost of the plant's main operation reduced. The material can be burned at the plant for fuel, if there is no other use for it, but it may be cheaper to secure power from coal or oil and sell the waste. Among the possibilities that should be explored are local fuel and cattle bedding, baled sawdust and shavings in carload lots, and bulk truck or carload shipments to wood flour plants or hardwood manufacturers, if it is possible to meet their specifications. Charcoal production is worth considering. Also, small pulp mills for container board, and perhaps the production of agricultural molasses for local sale. The broadest possibility is the establishment of wallboard plants, at or near the supply of raw material. Probably at least 25 tons a day, in fairly steady volume, would be necessary for the latter. Several sawmills or woodworking plants, within economical trucking distance, could be drawn on. The supply of manufacturing waste could be supplemented by material from neighboring woodlands, worked up by one of the new portable chippers from improvement cuttings or tops and branches from logging. For waste utilization plants of various types, the delivered price of the raw material should not be over $5.00 a ton.

Each mill has its own problems of wood waste utilization which should be tackled rigorously in order to convert the problems into profits. Opportunities do exist, but only through the combination of the proper material, proper process and proper outlets can a company assure itself of successful operation. The ratio of failures to successes in wood waste utilization have been high, yet alert managers have been successful in many instances. A careful study is required before launching into any such project and no firm with insufficient capital should attempt to enter it. The future will undoubtedly see further commercial developments in this field, but rewards will come only to those who carefully examined and weighed the projects in which they launch themselves.

Ralph Hanna Advanced by Hoosier Cabinet Corp.

The Directors of the Hoosier Cabinet Corporation of New Albany, Ind. have announced the election of Mr. Ralph Hanna as Vice-President in Charge of Production, according to Mr. Oscar Dane, President of the firm.

Mr. Hanna has spent his entire business career in the woodworking industry. Prior to joining the Hoosier Cabinet Corporation in 1948, he was associated as Superintendent of Gamble Bros., of Louisville, Kentucky.

Keep Green "Idea Handbook"

Field-tested forest fire prevention ideas are packaged ready for use in a 16-page Keep America Green "Idea Handbook" now being distributed nationally.

The handbook, published by American Forest Products Industries, of Washington, D. C., national Keep America Green sponsor, catalogs scores of successful fire prevention techniques, educational approaches and promotional programs developed during the past eight years.

Public and private forest agencies and organizations, along with state and county Keep Green officials in the 25 organized states will receive the handbook. Copies are available to others on request.

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Firm "Takes to the Air" With Its Wood Products

Astoria, Ore.—The Uptegrove Lumber Company, discovering that the nation's kite fliers used up sticks by the millions annually, have decided to turn out kite frames by the thousands.

The company has been slicing 5-32 of an inch pieces, but at first didn't think its machinery would slice the thicker kite sticks which must be 3-8 of an inch wide.

Officials explained that when you slice wood thick, it tends to mash down, like cutting a loaf of bread in half instead of peeling off thin slices.

Harold Turlay, manager of the company, fooled around with the machinery and found he could "slice thin sticks thicker." Now the firm, just in time for the kite season is producing 21 carloads of sticks a year.

The mill's shipments of this material totals 75,000 feet to a car, or about 675,000 feet a year—enough for quite a few kites. Management states the firm makes sticks for about a million kites a year.

Dean Heads Mengel Plywood Sales Division

Bruce A. Dean has been appointed general sales manager of the Plywood Division of The Mengel Company, Albert L. Entwistle, division vice-president, announced recently. This division produces and sells the Mengel flush door, plywood, fancy veneers and other products.

Mr. Dean resigned as sales manager of the Universal Rugs & Carpets division of Bigelow-Sanford Carpet Co. to accept the Mengel post. He was associated for many years with General Electric and affiliated companies in financial, executive and sales capacities.

New F.P.R.S. Group Forms

Spokane, Wash.—Organization of an Inland Empire section of the Forest Products Research society is announced.

Don Hayes, chemical engineer for the Pack River Lumber Company, Sandpoint, Ida., chairman, predicted the new organization would become as essential to the lumber industry as the American Medical Association is to the medical profession.

Voting memberships are restricted to those who are actively engaged in research, development, production or utilization of forest products.

Wirebound Box Manufacturers Elect Officers for '49

D. R. Simmons of the Elberta Crate and Box Company, Bainbridge, Ga., was re-elected president of the Wirebound Box Manufacturers Association at the group's annual meeting in New Orleans, Feb. 22 and 23.

John R. Miller of the T. R. Miller Mill Co., Inc., Brewton, Ala., was named vice-president.

L. O. Crosby, Jr., of the Goodyear Yellow Pine Co., Picayune, Miss., was elected a member of the Board of Directors.

All other members of the Board of Directors, except the two one-year "rotating members," were re-elected.

New "rotating members" are S. D. Slaughter of Muskogee, Okla., and Foster L. Martin of Clarksburg, W. Va.

Board members re-elected are: J. B. Adkins, Gainesville, Fla.; E. S. Barnhill, Indianapolis; S. C. Craven, San Francisco; N. W. Embry, Chicago; D. R. Gooding, Wausau, Wis.; F. J. Martin, Jr., Toledo; R. F. Miles, Chicago; A. L. Whiton, Chicago; D. R. Simmons and J. R. Miller.

L. S. Beale, Chicago, was re-elected secretary-treasurer.

New Freight Cars to Require Much Lumber

Railroads and private carlines of the nation had 85,974 new freight cars on order on March 1, according to the Association of American Railroads.

Of the total, class one railroads and railroad-owned private-controlled refrigerator car companies on March 1 had 78,061 new freight cars on orders, the association said. Of this total 31,408 will be built in railroad shops and 46,653 in outside shops.

A sensible girl is one who is more sensible than she looks because a sensible girl has more sense than to look sensible.

Tests of small specimens by the Forest Products Laboratory demonstrate that the strength of wood fibers is greatly increased by drying.

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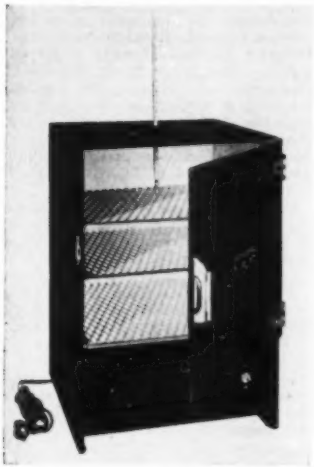

221°F. temperature. Its electric heating units are finned, giving rapid and uniform heat distribution. It is fire-safe because the heaters are totally enclosed and the oven is asbestos insulated. With ample capacity for a large number of samples at one time, the Testmaster has an exceptionally fast drying rate. This drying rate can be regulated by adjustable vents for varying loads. Write Grand Rapids Dry Kiln Company, Box 934, Grand Rapids 7, Michigan.

Find Wide Use for Redwood Plywood in 4-Year Tests

Portland, Ore. — Redwood takes on new desirable qualities when made into plywood according to Thomas B. Malarkey, vice-president of M and M Wood Working Company, one of the world's largest makers of softwood plywood and fir doors. Announcing that 40 per cent of the production of its new $2,000,000 Eureka, California plant is being turned to redwood plywood, Malarkey explained its new advantages. "The desirable characteristics of redwood, which ranks highest among western woods, are enhanced by the practical advantages of plywood," said Malarkey. "Already durable, this wood becomes splitproof due to cross-ply construction. The hot press process using phenol-formaldehyde resin to bond the plys assures the highest quality bond and increases the density and hardness of the redwood, which also gives it strong nail holding power."

Other advantages of redwood plywood listed include; lightness, (it is 15 to 20 per cent lighter than fir plywood), less shrinkage than in other woods, natural durability and resistance to decay and insects plus superior weathering and painting properties.

M and M's introduction of redwood plywood follows a four-year experimentation period during which it systematically eliminated faults commonly connected with California redwood. By developing special dryers at the Eureka plant the concern is able to quickly reduce moisture content (normally exceptionally high) to only 2 per cent. Specially designed lathe equipment has also been installed there for peeling the huge logs.

Ready markets are foreseen by Malarkey for redwood plywood. First among these is its use for interior and exterior paneling and use on pleasure cruisers "because its warm mellow reddish tone is both distinctive and beautiful." In this connection redwood is reported to be one of the finest exterior sidings available either for natural or painted finish.

Its lightness is seen as making it especially valuable for transportation uses and shipping containers. Other applications indicated are: tobacco hogsheads, farm and poultry equipment, heat exchangers, marine uses, signs and displays, pattern stock, core stock for hardwood-faced plywood, or laminated, plastic-faced plywood.

Generally, the announcement stated, redwood plywood "has improved resistance to wet and water conditions; better adaptability to plastic surface overlays, and much-improved adaptability for chemical impregnation to increase chemical resistance and harden the wood." It is being produced in all standard plywood dimensions.

New Duo-Fast Catalog

A new twenty-six page booklet contains descriptions of various Duo-Fast Automatic Tackers, suggestions for some of the various jobs that can be speeded up with this type of equipment, and four pages of photographs of the Duo-Fast machines in action. Available upon request at Fastener Corporation, Chicago 14, Illinois.

Among those books that have unhappy endings is the family check book.

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ROTARY CUT BAY POPLAR AND GUM
VENEERS
For QUALITY
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Selective cutting, expert workmanship, careful handling have made Bacon-McMillan Veneer consistently high in quality since 1910.
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The nearby timberlands supplying logs for the Bacon-McMillan plant are owned and cut by Bacon-McMillan. The source of supply is controlled year in and year out.
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STOCKTON, ALABAMA

MICHIGAN NEWS

By Staff Correspondent

White Pine Rust Being Fought In Copper Country

Houghton, Mich.—C. R. Allison, in charge of white pine blister rust work in the state, and William D. Miller, in charge in Michigan's Upper Peninsula, recently addressed the Rotary Club here on the white pine rust menace in the Copper country of Michigan. They told of areas in the district which are badly infected, and showed moving pictures of the inroads of the disease, how it is spread and how it is combated.

Several areas in this region are infected with blister rust. The method of combating the disease is to eradicate all gooseberry and currant bushes of any species in the infected areas. The spores travel back and forth between these bushes and trees. Once the berry bushes are removed, the disease is checked; but the badly infected trees die.

* * *

Price Decline Seen in Hardwoods

Marquette, Mich.—With the tremendous production of hardwood timber from the wooded sectors of this region this winter, the price of hardwood lumber is expected to decline soon. Timbermen claim that, although they expect a price drop in hardwood, the price before the fall of 1949 will rise again.

Looking for New Markets

Idle plants of the Atlas Plywood Corporation in Michigan's Upper Peninsula, which have been shut down due to the lack of U. S. dollars on the foreign markets, may reopen soon. Company officials are striving to find a market for some new wood product which could be manufactured in the plants without extensive changes. The corporation's northern Michigan plants used to turn out plywood tea and other shipping cases, primarily, for the foreign markets. The company's business with United States markets was insufficient alone to keep all of its plants operating.

* * *

Robbins Flooring Co. Buys Big Flooring Mill in Reed City

Reed City, Mich.—Company officials here have confirmed the sale of the E. L. Bruce Co., mill to the Robbins Flooring Co. of Rhinelander, Wis.

Since 1930 the Bruce company has owned and operated the flooring mill established in 1900 by the late William A. Horner.

Albert Abendroth, owner with his sons of the Robbins company of Rhinelander, is a former Reed City resident and at one time worked at the local mill when it was owned by Horner.

Mills Burn at Newberry, Mich.

Newberry, Mich.—The sawmill and planing mill of the Porter Lumber company were destroyed by a fire of undetermined origin here recently. The loss was covered by insurance. Company officials said the mill will be rebuilt.

Southeastern News

By Staff Correspondent

Baton Rouge, La.—Tax exemption on new plant, (or addition) has been granted Pineville Wood Products, Inc., Pineville, La., on valuation of $18,500; and to the River Land Hardwood Company, Inc., Simmesport, La., on valuation of $50,000, by the Louisiana State Board of Commerce and Industry. The Southern States Lumber Company, Bossier City, La., was granted exemption on valuation of $37,500.

* * *

East Brewton, Ala.—Charles H. Mantel, 75-year-old president of Mantel Woodworking Company, died of a heart attack March 13, 1949.

* * *

Alexandria, La.—Fire did damage estimated at $8,000 at the Bayou State Millworks Company March 15, 1949. T. M. Belgard is manager.

* * *

Jonesboro, Ark.—Roy Barkley, owner of the Barkley Cabinet Shop, which was destroyed by fire March 2, 1949, announced that the plant would be

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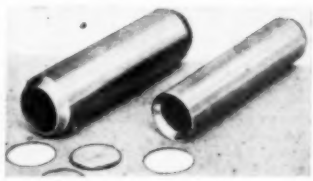

CUT OUT DEFECTS IN THIN VENEERS

One cuts out the defect and another one to cut plug to fit into part which showed the defect.

WOODWORKERS' TOOL WORKS, Inc.

221 SOUTH JEFFERSON STREET, CHICAGO, ILL.

rebuilt immediately. Manufacturing of church furniture was in progress at the time of the fire, and pews valued at $1,700 were destroyed. Loss to the plant was estimated at $7,500.

* * *

Holdenville, Oklahoma—O. E. Honaker has acquired the controlling interest in the United Manufacturing Company of Holdenville, and announced that the firm would continue to manufacture church furniture and to engage in mill work conducted on a contract basis. The firm also plans a future expansion program, and additional workers are expected to be hired in the near future.

* * *

Jonesboro, Ark.—Angelo Products Company, manufacturers of wooden livestock truck beds and other wood products, will expand after having been granted a 20-county area for sales of a new type awning. Frank Angelo is owner.

* * *

Houston, Texas—50-year-charter of incorporation was granted Home Furniture Manufacturing Company, March 4, 1949. Incorporators: Henry David, Harvey L. Little and James N. Erwin Jr.

* * *

El Dorado, Ark.—The El Dorado Creosoting Company, located two miles south of El Dorado on the Southfield road, has expanded its capital investment to about $150,000 and is increasing production in processing telephone and utility poles and other wood products. Fence posts, bridge timbers and pilings and lumber are among the products protected.

Leonard Fulkerson is plant manager. The industry is wholly home-owned.

* * *

North Little Rock, Ark.—Reconstruction of the General Wood Products Company's single-unit furniture plant at 1001 West Second street, which was destroyed by fire January 7, is about two-thirds complete. Robert L. Penton, company president, said reopening was on April 1st.

Northeastern News

By Staff Correspondent

Buffalo, N. Y.—The executive setup of the Richardson Boat Company in North Tonowonda has been revamped as a result of a change in the controlling interest in the company.

Leon E. Travis, vice president, treasurer and general manager, has been elevated to the presidency, succeeding Sidney S. Walcott. Leonard E. Mathies, has become vice president and treasurer. Thomas R. Krieger has been named secretary, succeeding Welles V. Moot. Mr. Krieger has been with the company since 1941 and formerly served as assistant secretary.

* * *

Quebec, Canada—A $600,000 fire on March 23 razed the furniture factory of Joseph Grenier Company Limited, destroying a saw mill, lumber yard and other facilities. The company recently marked its 100th anniversary.

Toronto, Ont.—Twenty-five men were thrown out of work by a fire that caused about $20,000 damage to the Toronto Woodworking Company plant, March 12th. Firemen battled the blaze for four hours before bringing it under control.

* * *

Syracuse, N. Y.—Forty-seven men received graduation certificates at the eighth lumber institute conducted at Syracuse University's College of Forestry which held commencement exercises recently. The course in retail lumber operation and merchandising is sponsored by the Northeastern Retail Lumbermen's Association.

* * *

North Tonawanda, N. Y.—More than 700 workers were recalled March 14 by the Rudolph Wurlitzer Co. as manufacturing operations were resumed at the local plant following a three-week shutdown. Carl E. Johnson, vice president and general manager, said that there was a steady increase in demand for electronic organs and definite improvement in commercial phonograph sales in recent months.

* * *

Rochester, N. Y.—John Di Clemente of Di Clemente & Volke will head activities of the Millmen's Association of Rochester during the coming year, following his election as president of the organization. Russell R. Shepherd of the Shepherd Showcase Mfg. Co. was named vice president, and Louis B. Cominsky, Fred R. Large Lumber Co., was re-elected secretary-treasurer.

Other members of the association are

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Modern Mechanical Saw Practice

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A new book on a very important subject by Mr. Foyster who is a Joinery Works Mgr. and Lecturer in Mathematics and Woodwork at an English Technical Institute. The book is divided into five main chapters: Preliminary Experiments, Saw Running, Saw Maintenance, Science Applied to Sawing and New Methods of Using Saws. All are profusely illustrated with pictures, charts and detail drawings making up a book of great value to any woodworking plant manager or millwright. The chapter on Saw Maintenance alone is well worth the price of the book. 224 Pages, Illustrated. $4.75 per copy.

Modern Organic Finishes

Their Application to Industrial Products

By Rollin H. Wampler

Here is a book that has been prepared for all industrial users of organic protective and decorative coatings. Descriptions of modern finishing materials and equipment for their application, drying and conveying are presented so that the reader may have an overall picture of modern industrial finishing operations. Throughout, the main emphasis is on proper selection and proper use of materials and equipment to get the best possible finish at minimum cost.

Contents: Modern Organic Finishing Materials: Oleoresinous and Alkyd Varnishes and Enamels; Cellulose Lacquers, Spirit Varnishes, High-Integrity and Specialty Finishes; Stains, Wood and Metal Fillers, and Miscellaneous Finishing Materials. Modern Application Methods: Spray Painting; Dipping and Flo-coating; Roller and Knife Coating; Tumble and Centrifugal Finishing; Special Processes. Drying Methods: The Drying Process, Air-drying; Force Drying; Baking by Convection and Radiant Heat, High-frequency Baking. Product Handling in the Finishing Department; Conveying Methods. Finishing Processes: Wooden Furniture and Cabinet Finishing; Pre-finishing Wood, Plywood and Hardwood Structural Materials; Special Industrial Wood Finishing Problems; Finishing Paper, Cardboard and Fabrics; Finishing Plastics and Resin-Impregnated Wood; Cleaning and Surface-treating Metals; Finishing Automotive and Railway Equipment; Finishing Sheet Steel Products; Finishing Iron Castings; Finishing Aircraft; Rubbing and Polishing Organic Finishes. General Considerations; Good Practice in the Finishing Department; Testing and Evaluating Finishes. Bibliography. Index. 452 Pages. Illustrated. $8.50.

WOOD PRODUCTS MAGAZINE
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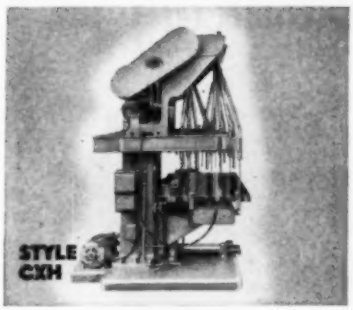
ROOT BORING MACHINERY



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the Crouch & Beahan Co., Hollister Lumber Co., Rochester Woodcraft Shop Inc., and Wood Specialties, Inc.

• • •

Arthur C. Rutzen has been appointed general export sales manager of the Rudolph Wurlitzer Company's North Tonawanda Division, North Tonawanda, N. Y. He formerly was special sales representative of the firm.

• • •

Arthur B. Bacon has been appointed superintendent of the Sikes Co., Inc., Buffalo, manufacturer of office furniture. Mr. Bacon is the brother of Francis B. Bacon, president of the company. He formerly was associated with the American Bosch Company and Curtiss-Wright Corporation.

Georgia-Pacific Plywood Elects Three New Directors

Owen R. Cheatham, president of Georgia-Pacific Plywood & Lumber Company, today (March 25) announced the election of Boykin C. Wright, of New York, John R. Kimberly, of Neenah, Wis., and S. H. Swint, of Augusta, Ga., as directors of the company, in addition to the re-election of five company officials as directors.

Mr. Wright is a partner in the New York law firm of Shearman & Sterling & Wright.

Mr. Kimberly, a vice president and director of Kimberly-Clark Corporation, has been with that company since 1924. He also is vice president and director of International Cellucotton Products Company, and a director of Wisconsin Telephone Company, Spaulding & Company, First National Bank, Neenah, Wis., and others.

Mr. Swint is a director of Atlantic Coast Line railroad.

To Install Sawmills in Nepal

The Kingdom of Nepal has extensive softwood and hardwood forests. Lumbering is on a very small scale, being confined largely to hewing construction timber and railroad ties in the accessible southern hardwood zone.

There are no sawmills in the country. However, the Nepalese government has launched an industrial development plan which calls for the installation of five sawmills in various parts of the country during the next 5 years.

New Montana Firm

Kalispell, Mont.—Articles of incorporation of the Treasure State Manufacturing company were filed with the county clerk March 22. The new company is incorporated with a capital stock of $50,000, broken down into 500 shares of $100 each.

The company plans to manufacture furniture, fixtures, furnishings, toys and all other kinds of articles, and plans are being made for the establishment of a plant and workshops with a power plant. Directors of the corporation are G. D. Weed, president; E. D. Hacker, vice president; Grant Bakewell, vice president, and G. S. Prestbye, secretary-treasurer. At the outset the company payroll will approximate $1000 per month, Bakewell said.

Minnesota Plywood Plant Burns

A fire destroyed the plant of the Midland Plywood Co., established about a year ago at Anoka, Minn., on March 20. Cause of the fire is unknown.

About half of the 60x150 foot plant was saved, firemen said. Representatives of the firm have not been able to estimate the loss as yet.

Jury Gets Stuck on Glue Case

Memphis, Tenn.—A table company here sued a glue manufacturer. It said 10,000 of its tables fell apart because the gluemaker's glue wouldn't stick. The manufacturer said it was just a case of not following directions. The jury wound up completely stuck, and the judge called it a mistrial.

New Mop and Broom Plant Under Construction

Belzoni, Miss.—A new plant for the manufacturing of mop and broom handles is being constructed in Belzoni. The firm building the handle plant was organized by a group of Belzoni businessmen, and is headed by John C. Halbrook, president; Joe Goldberg Sr., vice-president; and B. N. Regan, secretary-treasurer. The new plant will cost approximately $75,000, and will provide Belzoni with a $100,000 annual payroll. Approximately 40 workers will be employed, year-round, when the plant is placed in operation.

No one is quite so hopeless as the person who does nothing but hope.

Announcing the NASH "85" CHAIRBACK SANDER for curved chair parts

The Nash #85 Chair Back Sander will sand curved and serpentine chair stock up to 1¼" in thickness and 6" in height at a variable rate of production from 18 to 55 feet per minute. The use of this machine eliminates manual sanding over the large sanding drum, which is not only a tedious operation, but is frequently responsible for injury to the operator.

The only setup required on the Nash #85 is adjusting the feed roller to the thickness of the stock and regulating the pressure for desired stock removal. One side of the stock is sanded as it passes through the machine, and by simply reversing the piece and feeding it through the machine again, the sanding operation is completed.

The Nash #85 assures uniformity, parallelism of stock and an excellent finish. Feed roller has controlled spring adjustment thereby maintaining a constant pressure on the curved stock. Pressure being variable permits control of stock removal.

Write for descriptive literature.

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Los Angeles 7, Calif.

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Paterson 4, N. J.

American Woodworking Co.
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Chicago 39, Ill.

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Von Behren Mfg. Co.
Evansville, Ind.

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Ozark Furniture Mfg. Co.
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American Woodworking Co.
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MOULDINGS—CARVED, TURNED & EMBOSSED

Klise Mfg. Co.
Grand Rapids 2, Mich.

MARKETS ★ FINANCIAL NEWS ★ PRICES

Pine Lumber Production Rises In SC

Atlanta, Ga.—South Carolina, Tennessee and Georgia showed an increase in pine lumber production during 1948, while production over the rest of the southeast was dropping, the commerce department said recently.

South Carolina and Tennessee both showed 26 per cent increases, while Georgia production was up one per cent, C. Parker Persons, regional director of the U. S. Department of Commerce, reported.

Alabama, Florida, Mississippi and North Carolina all reported declines for 1948 as compared with 1947 production.

Southeastern production was 638,658,000 feet last year, Persons said, while 1947 production was 663,444,000 feet. Production last year by states:

Alabama, 212,549,000 feet; Mississippi, 159,011,000; Georgia, 82,963,000; Florida, 73,282,000; South Carolina 69,845,000; North Carolina, 35,518,000, and Tennessee, 5,490,000.

Bruce Firm Granted Tax Recovery

Federal Judge Boyd held that E. L. Bruce, Inc., Memphis, Tenn., is entitled to recovery of $9669.85 in federal excess profits tax and interest paid for the fiscal year ending June 30, 1930.

The Bruce Co. action was taken on the ground that the amount spent in reinspections and retreatments on contracts for the application of Terminix by its predecessor, Terminix Co. of Southern California, was business expense and deductible.

Judge Boyd entered the judgment order for the $9669 sought, plus additional interest from the date of payment, the total not to exceed $10,000.

Huttig Sash & Door Nets $13.09 Per Share

In what was regarded as the most successful year in its history, Huttig Sash and Door disclosed consolidated net income of $1,827,153 for 1948, equal to $13.09 per share. This compares with net of $1,696,858, or $12.14, in 1947. Earnings in 1948 are after setting aside $180,000 to increase surplus reserve for inventory replacements and contingencies to $480,000. Reserve charges in 1947 amounted to $200,000. Net sales were $20,513,246, against $17,911,818. Company paid a total of $6 on the common last year, including a $4 extra in December.

Report Redwood Lumber Shipments

The California Redwood Association reports 28,563,000 board feet of redwood lumber were produced by twelve reporting companies in January.

Shipments during the month totaled 23,347,000 board feet, orders received 23,200,000, orders on hand at the end of the month 34,072,000. Stocks on hand January 31 totaled 163,752,000 board feet.

More than half of the orders on hand were eastern shipments.

Furniture Orders, Shipments Down in February

The experiences of the reporting furniture plants during the month were many and varied. A few actually booked more new business than they did in the market month of January. On the other hand, many did little new business. On the whole, orders booked were down 22% as compared with January 1949, and 23% as compared with February 1948. For the two months January and February combined, new business was down 32% as compared with the first two months of 1948, a decided improvement compared with the 40% slide for January alone.

Cancellations were again above normal, but slightly lower in relation to new orders than in January. Shipments were off 18% compared with February 1948, but ran 4% ahead of the January 1949 shipments. For the two months, shipments were 22% lower than in the same period in 1948.

While unfilled orders were reduced only slightly during February, nevertheless, at the close of the month they were less than half the order backlog at the end of February 1948.

Employment dropped another 2% during February and at the end of the month showed a twelve-month decline of 10%. Dollar payrolls were also off 10% as compared with February a year ago, and for the first two months of 1949, the decrease was 13% compared with the same period in 1948. Plant time averaged about 43 hours per week compared with 42 hours in January 1949, and 47 hours in February 1948.—*[Seidman & Seidman]*

Caskets Shipments Up for 4th Quarter of 1948

Manufacturers' shipments of wooden caskets during the fourth quarter of 1948 were 17.4 per cent more than in the third quarter of 1948 and 2.6 per cent more than in the fourth quarter of 1947. During the quarter 88.3 per cent of the shipments were wood caskets as compared with 79.0 per cent in the third quarter of 1948 and 81.2 per cent in the fourth quarter of 1947. Shipments of metal caskets were 41.3 per cent less than in the third quarter of 1948, and 41.1 per cent less than in the fourth quarter of 1947.

Estimated consumption of lumber in the casket industry in the fourth quarter of 1948 was 49 million feet, as compared with 48 million feet in the third quarter of 1948 and 50 million feet in the fourth quarter of 1947.

Earnings Reports

Portland, Ore.—The M & M Woodworking Company announced that it earned $1,881,601 or $1.34 a share in the first six months of its current fiscal year.

The company earned $2,796,000 or $2 a share in the corresponding period of the previous fiscal year.

Harbor Plywood Corporation, Hoquiam, Wash., reports for 1948 preliminary net profit of $1,340,000, equal to $1.34 a share, compared with $1,244,688 or $1.24 a share in 1947.

Net sales for the period totaled $17,399,000, compared with $14,065,541 in 1947.

Chairman E. W. Daniels informed stockholders unsettlement in forest products industries continues, but signs of improvement are now evident.

The net earnings of The Carborundum Company, after taxes, amounted to $1,046,922 for the year 1948, as compared with $1,878,629 in 1947. Dividends paid amounted to $2.00 a share in 1948, which was the same as 1947, according to the annual report by H. K. Clark, president of the company.

Earnings for 1948 were derived primarily from dividends from foreign subsidiaries and investments in foreign corporations. The domestic operations of the company were less favorable in 1948, showing a net operating income after taxes, of $72,442 as compared with $653,866 in 1947.

Total net sales of the company in 1948 amounted to $43,450,788 as compared to $42,471,399 in 1947.

Mengel Sales Up But Profits Lower Than '48

The Mengel Company, in its annual report for the year 1948, showed that while its net sales for the year $35,630,000, established by a slight margin a new high record for the company, net profit for the period was down to $1,829,000, equivalent to $3.12 per common share, as compared with $2,296,000 and $3.95 per share for 1947.

Each year's profit included a $250,000 dividend received from U. S.-Mengel Plywoods, Inc., equal to 45c per Mengel common share. In addition, Mengel's equity in U. S.-Mengel Plywoods, Inc.'s earnings for 1948 were not distributed as dividends amounted to an additional 50c per share of Mengel common, compared with 61c per share in 1947.

M. & M. Stock on "Big Board"

Stock of M. & M. Wood Working company, regarded as one of the nation's top three plywood and door producers, is now listed on the New York stock exchange.

Exchange listing of the stock coincided with an M. & M. announcement that it had earned $1,881,601, or $1.34 per share, for the first six months of its current fiscal year ended Jan. 31.

New Infeed Attachment for Shapers and Saws

Ekstrom, Carlson & Co. announce their new, fully patented No. 26 Infeed Attachment for shapers and saws . . . two of the most dangerous machines in the woodworking industry. Conceived, engineered and developed to serve an obvious and long felt need, this device is without parallel as an integral Safety Guard, Holddown and Semi-Automatic Feed, it is claimed by the manufacturer.

With the employment of this infeed attachment, the operator's hands will never come close to the revolving saw blades or shaper knives. Safety, however, is only one of the advantages that this invention provides. As a holddown and semi-automatic feed, the machine virtually eliminates operator fatigue. In actual factory tests over a six months period production has been increased as much as eight-fold and with less effort expended by the operator.

Effective production control is realized through the use of a variable speed drive. By merely turning a conveniently located dial, the rate of feed can be varied from 5 to 85 feet per minute. Should there be a difference in stock thickness, the attachment performs fully as well, for it will yield to allow for any normal stock variations. Both wide and narrow stock can be fed with equal success.

Through a rack and pinion arrangement, a maximum horizontal adjustment of 18" and an effective vertical height from 32" to 40" can be obtained. The locking clamps, adjustments and push button control are conveniently located to facilitate quick set-up and maximum safety.

If set up in conjunction with a saw, fine-tooth saw blades can be used to produce superb quality work. When veneered stock is being run, this is especially important as it minimizes the possibility of chipping.

The entire unit is semi-portable and can be moved from one machine to another, or it can be swung around 360 degrees; thereby making it possible for one attachment to be used, alternately, on more than one machine.

The ECCo No. 26 Infeed Attachment is suitable for use with practically any make and size of shaper or saw without modification.

Literature and prices may be had by writing Ekstrom, Carlson & Co., 1400 Railroad Ave., Rockford, Illinois.

Carborundum Co. Announces Sales Staff Changes

Mr. E. R. Baxter, Director of Sales and Sales Administration of The Carborundum Company, announces the following changes in District Sales Office personnel:

Mr. F. H. Appenrodt, for many years Office Manager of the Pittsburgh District Sales Office, has resigned, effective February 28, 1949.

Mr. H. P. Erbe, presently office manager of the Cleveland district sales office, has been appointed office manager of the Pittsburgh district sales office to succeed Mr. Appenrodt. Mr. Erbe will assume his new duties at Pittsburgh on April 1, 1949.

Mr. R. L. Heimstadt, assistant office manager of the Detroit district sales office, has been promoted to the position of office manager of the Cleveland district sales office to succeed Mr. H. P. Erbe. Mr. Heimstadt will assume his new duties at Cleveland on April 1, 1949.

Mr. D. S. Masson, manager, sales administration, home office, has been promoted to the position of assistant to the district sales manager in Detroit. The growing importance of the Detroit operation has made the creation of this new position necessary. Mr. Masson will be charged with the responsibility for the overall operation of the Detroit district sales office under Mr. J. F. Claydon, the district sales manager, and will undertake his new duties on April 1, 1949. Mr. J. R. Middleton will continue as the office manager in Detroit.

Furniture Association Contributes To Forestry School

Jamestown N. Y.—The Jamestown Area Furniture Manufacturers Association have contributed $2,000 to the University of Michigan's School of Forestry to aid the school in continuing its training program, which includes the study of all phases of wood.

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in the race for business. Designers who have turned to Gamble's curved laminates to solve their production problems are leaving the others at the post. They're coming down the stretch and it's Gamble Brothers way out in front offering greater freedom in the designing and redesigning of modern products.

YOUR BEST BET: play Gamble Brothers across the board. Experienced handicappers list Gamble Brothers' fifty years' "wood know-how" as a "sure thing" in any parlay.

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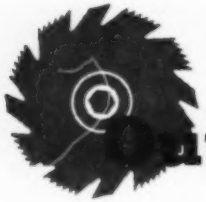

Out in the shop

Aspects of Twist Turnings

Machining twist effects in turnings is a secondary operation, the blanks being first turned round in section before the twist pattern is machined, whatever the particular nature of the twist or helical cut may be. Cutters and machines of the type most ordinarily used for fluting and reeding turnings are not amenable for twist machining for the reason that such cutters do not have side clearance in every direction, and are not swivelly adjustable. If, however, you conceive of a router-type bit engaged in machining flutes (incidentally, routers are used in fluting turnings of different kinds in special setups here and there) it will be possible to pass the turning along in contact with the end of the cutter longitudinally, and at the same time revolve the turning on its axis at any desired degree of relational and rotational speed, to produce a spiral or a helical cut. This can be done because a router bit is both end-cutting and side-cutting in every direction. It is therefore not possible to bind the cutter.

Twist Turning and Fluting Machines

However, on machines which have been primarily designed and built for both fluting and twist turning on spindle turnings, the usual arrangement is to employ a cutterhead having shearing-type knives, and to mount the cutterhead spindle in such a way that it can be swiveled, and set or held at any desired angle. The turning blank is mounted between a pair of centers. These centers are part of an auxiliary assembly, and this auxiliary assembly is arranged to move past the machine which carries the swiveling cutterhead. There is provision made for indexing the turning by equal angular increments, in cases where that may be necessary. A roller is arranged in front of the machine base. The front edge of the lower member of the auxiliary assembly carrying the turning bears against this roller. The edge of the member which bears against the roller is formed to match the longitudinal contour of the turning, so the depth of cut may be kept constant, the same as when making fluting cuts on a standard fluting attachment at the shaper. The roller functions instead of the lower shaper collar in this case.

The *particular* difference between this type of machine and a fluting attachment in connection with the shaper, however, lies in the fact that the head center of this unit is connected, through bevel gears, with a pinion at the end of a vertical spindle. This pinion engages a stationary rack, which rack is horizontally disposed, and which may be either above or below the level of the turning, depending on the particular machine being used. In either event, the pinion, engaging the stationary rack, is caused to revolve as the assembly carrying the turning is passed along in contact with the cutters. Revolution of this pinion causes the head center of the assembly also to revolve, and to revolve the turning with it.

Thus, with the turning blank moving along longitudinally, and revolving in synchronism with its rate of longitudinal advance while contacting the cutters, a helical or twist cut is obtained. Facilities are provided on one such unit for obtaining one full revolution of the turning blank for 1½", 3", 4½", 6" or 7½" of longitudinal advance. In every case, the cutterhead is swiveled around to such an angle that the revolution plane of the cutters will agree with angle of twist, or lead of the cut at the point of cutting, thus obtaining proper cutter clearance at all times. Knives of many different shapes are used to obtain different twist turning effects. A machine of this kind is naturally limited to production of twist cuts having a uniform rate of lead, from one end of the twisted cut to the other. This however, is what is usually desired.

Non-Uniform Twists in Turnings

There is, for those who may desire it, a possible machining method for twist patterns on turnings that are *not* limited to a uniform rate of lead. Using this method, twists that are progressively increasing or decreasing in lead, longitudinal straight members that merge artistically into twisted portions, or even members which proceed serpentine fashion down the length of a turning (or down a part of its length) may be produced. A universal router was built at one time which had a swiveling action for the machine table. It could readily be used for machining not only conventional twist patterns on spindle turnings, but all sorts of odd and eccentric effects also. It is not known whether this particular machine is still being made as a standard unit, but it is a practical certainty that one could be built special. Admittedly, however, conventional twist patterns provide sufficient variation to allow of considerable latitude in turning design. A demand for odd or eccentric effects is therefore the exception rather than the rule.

Fast Handling of Stock at Borer

At any woodworking machine, fast handling of stock is a large factor in favorable production. Some machines, however, possess characteristics which tend to hinder full-speed handling of the stock. The boring machine is often one of these, due to the nature of chips coming from the boring bits, their tendency to collect on the machine table and to be pushed in between the stops and the workpieces, thereby affecting accuracy adversely, as well as affecting speed in handling.

Machine tables have sometimes been made with many holes or perforations cut through them, so that a large share of such borings would find their way through these openings automatically and on down to the floor by gravity. However, where such holes are provided through the table, it is easy to pinch one's fingers between the edges and ends of the workpieces and the edges of such holes. Many bad blood blisters have resulted in this way.

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problem of keeping a boring machine table relatively free from chips is to arrange a blower or fan to provide a reasonably strong air blast over the boring area at all times. It is usually quite possible to do this. In fact, some boring machines have been designed and built with a blower for this purpose. If a machine is not so fitted, one can usually apply an auxiliary blower. One advantage of a blower applied in the shop is that it can often have its position changed, so the air blast it produces will be directed to clear the table to best advantage for each individual job. A portable electric blower will usually do the job nicely, if a better-suited unit is not at hand or readily available.

Kentucky to Plant Trees on Strip Mined Areas

Louisville, Ky., Feb. 23—Work was started today in the Western Kentucky coal fields, to reclaim spoil banks of strip mining concerns, in Hopkins, Ohio, Webster and Muhlenberg counties, through the Kentucky Reclamation Association, of which James H. Moore is director.

Grass seeds such as Kentucky 31 Fescue, Korean Lespedeza, Sercia and Sweet Clover will be spread on more than 500 acres in the four counties, from a Helicopter. Another 500 acres will be planted to seedling trees, such as walnut, poplar, locust, short leaf and Loblolly pine. Moore stated at Madisonville, that more than 500,000 seedlings would be planted to 500 acres in March and April.

Kenneth Wilson Joins Synvar Corporation

Word comes of the appointment of Kenneth A. Wilson to the sales organization of the Synvar Corporation, Wilmington, Delaware.

Mr. Wilson, formerly with the Monsanto Chemical Company, will sell and service Synvar Resin Glues, Urea and Phenolic, in New York and Pennsylvania.

New Handle Mill in Operation

Winnfield, La.—Acton Handle Company of El Dorado, Arkansas, has placed a handle mill in operation here. The mill is processing hickory timber, and has a supply of such timber to operate on for about three years. Hickory cut by the mill will be used for picker sticks for cotton mills, for construction of skis, all types of implement handles and etc.

1947 Lumber Shipments

In 1947, lumber production in 12 western states was reported at 16,417 million board feet, lumber tally, 14% above the 1946 output.

WOOD PRODUCTS CLASSIFIED ADVERTISING GETS RESULTS!

Machines Cause Small Per Cent Of Injuries, Mengel Finds

The Mengel Company, Division of Safety, Louisville, Kentucky, has completed a study of 1000 medical cases picked at random from 25 plants, and the following was found:

Machines caused 13.4 per cent of all injuries resulting in medical cases, leaving 86.6 per cent non-machine injuries.

Machine injuries were from:

Sanders	26.0%
Saws	23.1%
Boring machines	8.8%
Presses	8.6%
Routers	5.5%
Shapers	4.3%
Sticker-moulders	3.3%
Lathes	3.3%
D. E. Tenon	3.1%
Others	14.0%

Non-machine injuries were from:

Handling objects	41.90%
Falling objects	18.50%
Striking objects	9.36%
Hand tools	6.12%
Hand trucks	5.48%
Falls	2.70%
Conveyors	1.62%
Power trucks	.54%
Sick and injured off the job	9.08%

Union Pact Allows 'Fishing' Day Off

New London, Wis.—A day off with pay when the fish are biting best is part of a company and union contract here.

The plan was arranged between the Edison Wood Products Corp. of New London and a local of the Upholstery Workers union.

On the day the pike run on the Wolf river is at its peak, employees will receive a paid holiday. Solution of an industrial absenteeism problem is expected to be solved.

Fir Plywood Standards

An eighth edition of the Commercial Standard for Douglas Fir Plywood which has been in effect since November 1, 1948, has just been issued, according to an announcement by the Commodity Standards Division of the National Bureau of Standards.

Copies of the pamphlet embodying the revised Commercial Standard (issued as CS45-48) may be obtained at ten cents each from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

"The Coming Age of Wood"

An analysis of the various uses of wood, "The Coming Age of Wood," by Egon Glesinger, chief of the Forest Products branch of the Food and Agriculture organization of the United Nations, was issued by Simon & Schuster on March 21. He says that wood, properly used, can eliminate want and may be turned into food, fuel, chemicals, clothing, oil, shelter, leather, soap, rubber, plastics and medicine.

Sap Freezes

Bend, Ore.—Smoke didn't freeze in Oregon's coldest winter in 15 years, but sap in frozen logs did. Lumbermills closed down because saws would not cut through frozen logs.

Labor Relations

"Operation Productivity" in Full Swing Over Nation

"Operation Productivity," initiated recently by the Labor Relations Institute, New York, has been successfully enveloping a wide variety of industries in its three-pronged attack on the productive efficiency of top management, foremen and rank-and-file workers.

Institute reports in recent weeks have been systematically covering every aspect of labor relatioons policy and practice in order to provide member companies with the necessary guideposts on which to "peg" their own campaigns to increase productivity.

Such subjects as time waste, working conditions, simplified methods, inplant gambling, office procedures and absenteeism, have been thoroughly discussed in PRACTICAL METHODS IN LABOR RELATIONS, the Institute's three-times-a-month report to members.

For free copies of this program, write to the Labor Relations Institute, 1776 Broadway, New York 19, N. Y.

Joe, disconsolately looking out the window, noticed a verv large log floating down the river. He said: "Now that's typically Washington.

Moe looked and said he couldn't see anything unusual except that the log was pretty big.

Joe said: "Yes, I know, but if you'll look closely, you'll notice that there are 100,000 ants on that log and each one thinks he's steering it."

Softwoods of light weight in general hold paint longer than heavy woods.

The new unit will be in operation in late February, adding $2,000 weekly to the payroll.

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MODERN WOOD ADHESIVES

By Thos. D. Perry

A complete and authentic book on Adhesives of all kinds by a man eminently qualified to handle the subject. A book that should be in the reference file of every wood products plant using adhesives in any form.

Fully illustrated showing methods and equipment. Many tables, reference and glossary of terms. Chapters cover all types of adhesives and their uses, handling, limitations, and application, giving much new material. Also chapters on mixing, comparison, pressure, adhesion by heat, testing and impregnation. (Compreg, Impreg etc). A technical subject handled in an easily understood and interesting way. 208 pages. $4.00 per copy. Send your order today with remittance to

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Millwork office man wanted. Must have some practical experience as draftsman. Must be under 40 years of age, neat appearance, able to meet the public and assume responsibility. We desire a man with background to train as future executive in small detail mill and lumber company located in Southern California. Only applicants who give necessary information regarding background will be considered. Apply Box 797, % Wood Products.

WANTED

Fixture Draftsman who can design, detail and piece build, Bank, Store, and Office Fixtures. Give age, salary expected, also past experience and references.

Riecke Cabinet Works
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Supt. with Furniture experience for Dimension Dept. in plant producing completely machined Hardwood Dimension in Appalachian territory. Here is your opportunity to join with a young organization operating an old established concern that is going places. Write giving full details, applications will be received in strictest confidence. Reply Box 807, % Wood Products.

Wanted—Northern Hardwood Plywood Salesman

Sales Representatives calling on the users of Hardwood Plywood can make a satisfactory connection with old established plywood manufacturer of Birch and Maple panels on a 5% commission basis. Protected territory for producers. Write us in detail with your experience, kind of trade you cover and territory in which you make your regular calls. Address Box #806, % Wood Products.

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A new wood and plastics product, having unlimited sales possibilities, is now open, for production and marketing on a royalty basis, to established wood products manufacturers having organized sales outlets.

The product is a new translucent paneling, resembling glass block, for decorative and functional interior applications in stores, shops, offices, restaurants, theaters, bars, etc., as well as in homes. May be used for screens, partitions and display backgrounds, also in furniture and fixtures.

Construction consists of simple wood framework, similar to sash, having sparkling jewel-like plastic panes fused thereto by a special process, fully protected by Patents Pending. Production facilities required are woodworking and paint spraying equipment. Molded plastic panes are available from stock. For further information, write Box 804, Wood Products.

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Power for Small Mills

Economical power for small sawmills through the use of two standard automobile engines is discussed in a report now available from the Office of Technical Services of the Department of Commerce.

Development of a dual power plant for portable sawmills was investigated by the University of Kentucky in a research project sponsored by O. T. S. as part of its 1947 program to increase America's technological productivity through research of broad benefit.

According to the report, the typical portable sawmill, working in forest areas of limited growth, requires power slightly greater than that obtained from the stock automobile engine. Inadequate power results in reduced capacity, waste of manpower, and much waste of good lumber. However stock automobile engines are used by small sawmills because they cost considerably less per horsepower than specially-built industrial engines of higher output.

The report indicates that a satisfactory power-plant of higher capacity can be obtained by mounting two automobile engines one in front of the other on a suitable frame, both supplying the same layshaft through flexible V-belts, and both controlled and governed simultaneously.

PB 96556, *Development of a Dual Power Plant for Portable Sawmills*, 32 pages, including drawings and illustrations, is available from the Office of Technical Services, Department of Commerce, Washington 25, D. C., at $1.00 per copy. Orders should be accompanied by check or money order payable to the Treasurer of the United States.

The strength of round columns may be considered the same as that of square columns of the same cross-sectional area.

Only about 1% of the forest area in the Douglas fir region is cut over each year. A Douglas fir grows to a diameter of 24 inches in about 80 years.

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***Copeland Lbr. Co. - Ontonagon & Atlantic, Mich.**
Sales Office—135 So. LaSalle St., Chicago—Hardwood Lumber, Dimensions. Dry Kilns and Planer.

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***Goodman Lumber Company - - Goodman, Wis.**
Northern Hardwoods, Hemlock, White Pine, Basswood, Cedar Shingles. Planing mill. Dry kilns. Rotary cut veneers.

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***Michigan Pole & Tie Co. - - - Newberry, Mich.**
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Connor Lumber & Land Co. - - Marshfield, Wis.
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**Member Northern Hemlock & Hardwood Mfrs. Assn.*

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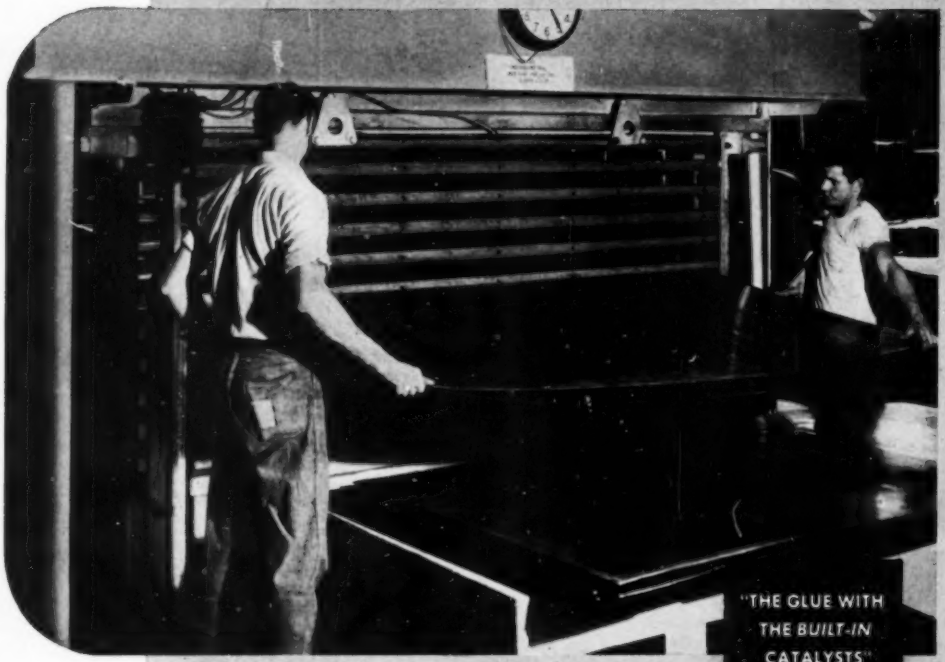

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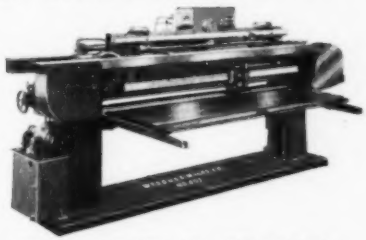

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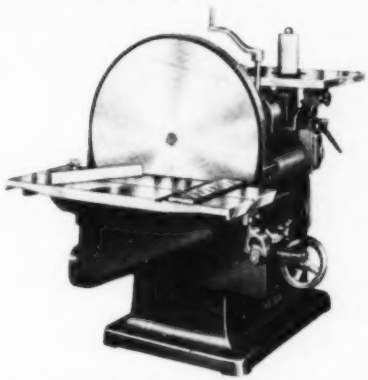

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